VOL. XII No. 14 CHICAGO, OCTOBER 3, 1907 PER YEAR

MOTOR AGE

DEATH IN MORRIS PARK 24-HOUR EVENT

START OF THE MORRIS PARK 24-HOUR RACE, WITH THREE ROWS OF MACHINES

NEW YORK, Sept. 29—Beginning as one of the grandest spectacles ever witnessed in motor competitive sport the 24-hour endurance race at Morris park came to a most pitiful ending last night with seven of the nineteen starters slowly plowing around a track deep in mud from the rain which fell steadily from the middle of the afternoon and with a record of several accidents, one of which cost the life of a contestant and seriously injured two spectators. The result of this twice-around-the-clock race, which proved to be a real endurance test of cars and drivers, was a decisive victory for the 1906 Fiat, piloted by Emanuel Cedrino and E. Parker. The Studebaker, driven by J. A. Holmes and A. J. Ditman, was second, with the Itala, Zumbach and Carriere drivers, a close third, the Frayer-Miller, piloted by Harry Knepper and Dan Webster, the only air-cooled car in the race, fourth and close behind in fifth place the Allen-Kingston.

The Fiat covered 984 miles, just 95 miles behind the record made at the same course a few weeks ago by Bernin and the Renault. The mileage of the eight contestants who finished were as follows:

Car	Drivers	Miles
Fiat,	Cedrino-Parker	984
Studebaker,	Holmes-Ditman	878
Itala,	Zumback-Carriere	873
Frayer-Miller,	Knepper-Webster	756
Allen-Kingston,	Campbell-Blakly	754
Stearns,	Vaughan-Warren	729
Simplex,	Poole-Robertson	696
Stearns,	Schlipp-Heisas	595

The leaders at successive hours and their mileage were:

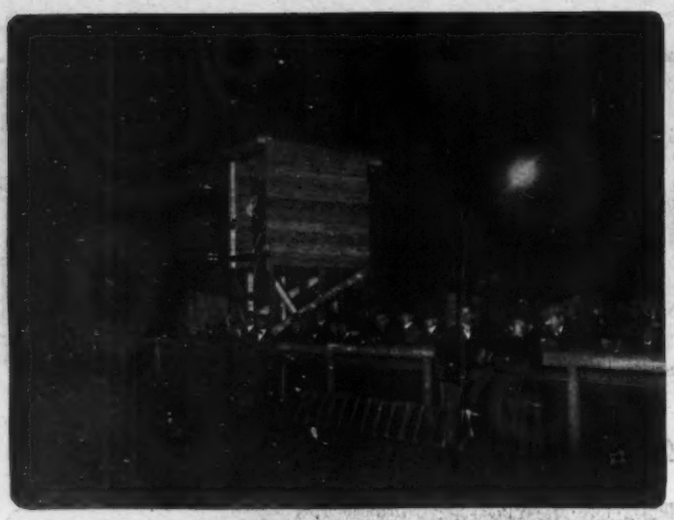
Car	Miles
First hour—De Dietrich	52
Second hour—Simplex	101
Third hour—Lozier	146
Fourth hour—Lozier	193
Fifth hour—Lozier	237
Sixth hour—Lozier	286
Seventh hour—Lozier	316
Eighth hour—Fiat	362
Ninth hour—Fiat	408
Tenth hour—Fiat	457
Eleventh hour—Fiat	504
Twelfth hour—Fiat	553
Thirteenth hour—Fiat	600
Fourteenth hour—Fiat	650
Fifteenth hour—Fiat	699
Sixteenth hour—Fiat	746
Seventeenth hour—Fiat	781
Eighteenth hour—Fiat	830
Nineteenth hour—Fiat	855
Twentieth hour—Fiat	875
Twenty-first hour—Fiat	910
Twenty-second hour—Fiat	934
Twenty-third hour—Fiat	954
Twenty-fourth hour—Fiat	984

The only enlivening feature of the closing hours of the long race were the attempts of the Itala to beat the Studebaker for second honors and of the Allen-Kingston to take fourth place from the Frayer-Miller. Both attempts were unsuccessful.

CEDRINO IN WINNING FIAT

From a purely racing standpoint the Morris park 24-hour endurance contest had two strong features—one the sturdy work of the Fiat and the rare skill and judgment displayed by Cedrino and his teammate Parker in handling it and the other the exceptional performance of the Studebaker and its two young and inexperienced drivers. The Fiat, the only car in the race fitted with Michelin tires, did not make a single replacement and finished with the same air in its tires with which it started. Its only stops were for gasoline oil and to change drivers. The Studebaker spent less time off the track than any other car in the race.

The accident which marred the race occurred in the thirteenth hour or at 9:20 o'clock Saturday morning. Smelzer, driving one of the Lozier cars, lost control of it on the upper turn through the bursting of the right front tire and crashed through the fence. The front of the car passed under the heavy top rail which supported a 4-inch iron pipe but the steering wheel caught it and Smelzer was crushed in his seat, suffering a fracture of the skull, two broken collarbones and a crushed chest. Fred Hall, the mechanic, escaped with a shaking up and bruises. He was sitting



ON THE JOB JUST BEFORE DAWN

AS THE TRACK LOOKED AT NIGHT

on the floor of the car and consequently was not struck by the rail and pipe. Before the car came to a standstill it had knocked down five spectators, of whom Frederick Pope, 13 years old, and John Clark, 24 years of age, were seriously injured. The former suffered a broken leg and the latter was rendered unconscious. They, together with Smelzer, were removed to Fordham hospital, where Smelzer died at 10:40 o'clock without regaining consciousness.

Lawrence W. Smelzer was a partner in the firm of Linkroun & Smelzer, of Newark, the New Jersey agents for the Lozier car. He finished second in the Brighton Beach 24-hour race of last August and was a participant in the Philadelphia 24-hour race of last June.

In three lines across the track the nineteen cars lined up for the start of the 24-hour race stood exhausting great clouds of smoke and sounding like a hundred batteries in action. Of the twenty entrants the Renault with its driver, Maurice Bernin, was missing. While attempting to beat the Chicago-New York record early in the week a non-skid band came off Bernin's car and striking the steering wheel broke his wrist. On this account the Renault, winner of the first Morris Park twice-around-the-clock event, was withdrawn.

At 8:21 o'clock Friday night Starter Fred Wagner fired his pistol and the first line, with an increased volume of smoke and noise, jumped away and entered the first turn. Five seconds later the pistol cracked again and the second line leaped into action, to be followed after another interval of 5 seconds by the third line.

The contestants divided into two groups, one of which led by George Mack in the de Dietrich hit up a 55-mile-an-hour clip and fairly made the spectators gasp as they tore down the stretch and skidded around the turn, sometimes as many as six in a bunch. The other group, among which were the first five to finish, kept to a steady pace and were lapped time and again by the leaders. Mack covered the first 50 miles in 58 minutes 14⅖ seconds and when the first hour was up he had made 52 miles. Two miles behind Smelzer in a Lozier and Poole, Joe Tracy's former mechanic, in the Simplex were tied.

Shortly after the second hour began Mack retired to change a tire and Poole assumed the lead. The first mishap occured at this time when a front wheel came off the Stearns car, driven by Schlipp, as it entered the sharp clubhouse turn. It was soon replaced. Poole had covered 101 miles at the end of the second hour with Smelzer 1 mile behind and Michener in the other Lozier 3 miles in the rear of his team mate. At this stage the two Lozier drivers began to hit up a terrific pace and at the end of the third hour had secured first and second positions.

During the fourth, fifth, sixth and seventh hours Smelzer held the lead with Cedrino in second place and slowly gaining with Vaughan in the Stearns, Holmes in the Studebaker and the Frayer-Miller trailing close behind. Smelzer went to the paddock to change his tank which was leaking and Cedrino equaled his seventh hour score of 316 miles.

VIEW OF THE CAMP

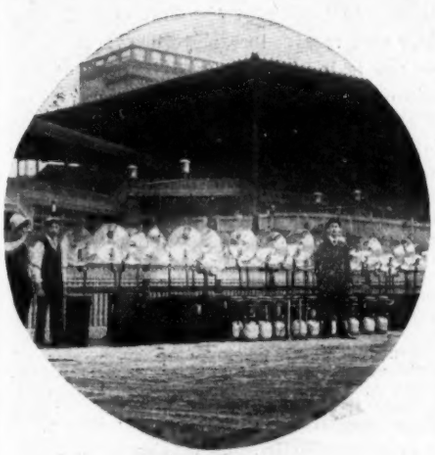
At the close of the eighth hour Cedrino had forced his Fiat into a lead of 12 miles, which he steadily increased until the end of the race. A noticeable feature of the Fiat was the location of the gasoline tank in the middle of the car, hung under the left side of the frame. This tended to keep the inside wheels on the track when taking the turns at a high speed. In the eighth hour Mack drove the de Dietrich 56 miles, which was only equaled by Poole in the Simplex, who covered the same distance in the seventeenth hour. The next best hourly records were 54 miles by Vaughan in the eleventh and 53 miles by Robertson, Poole's relief driver, in the tenth hour. At about this stage of the race Truwin drove the Welch into the clubhouse turn at too fast a clip and it skidded almost into the fence be-

LINE-UP FOR START OF THE TAXIMETER CAB RACE

fore turning and coming to a stop in the center of the track headed the way it had come. Cedrino was close behind and only escaped running into the Welch by swerving to the outside. Vaughan, who was hanging to Cedrino's rear wheels, had to make a still wider swing.

During the tenth and eleventh hours Vaughan and Smelzer alternated in second place with the Studebaker in fourth position.

Cedrino's record was 1 mile ahead of the Renault record for 12 hours. In the thirteenth hour occurred the accident to the Lozier car which resulted in Smelzer's death and the injury of two spectators. When word of Smelzer's death reached the track Harry Lozier withdrew his other car, although it was doing 50 miles an hour and had a chance for second, maybe first. This fatal accident cast a deep gloom over the race. The spectators lost interest in it, feeling that what they had regarded as



LIGHTING OUTFIT

grand sport was in reality playing with a grim death which already had demanded one life and at any moment might require a further sacrifice.

In the fifteenth hour the Allen-Kingston retired because of transmission trouble and the Studebaker moved into second place. It had averaged 43 miles an hour and during the entire race only left the track to change drivers and have its tanks filled. At this point the Itala moved into third place. At 2:21 o'clock Saturday afternoon the 24-hour race was stopped and the cars placed along the fence in charge of the judges. The track had no more than been scraped and oiled when the rain began to fall. After vain attempts to hold some short races the 24-hour contest was resumed at 4:25 o'clock with the track soft and slippery with oil and water. The contestants placed chains or anti-skid tires on their wheels and plowed around the track in a steady downpour at a speed of 20 to 25 miles an hour until the close of the 24 hours at 10:25 p. m. Shortly after the race was resumed the Packard turned turtle after going through the inside fence on the dangerous clubhouse turn. Embleton, Wallie Owen's relief driver, who was handling the car, was pinned beneath it. Much to the surprise of everyone Embleton escaped with a sprained back and his mechanic with a few bruises.

On Friday afternoon an attempt was made to run off a program of short races to serve as an appetizer for the big contest. This proved to be rather tame, the only feature being the equaling of the world's mile track record of 52 seconds by George Robertson, driving the 120-horsepower Hotchkiss which Elliot F. Shepard piloted in the last Vanderbilt cup race. McCullough, driving the 80-horsepower Darracq, winner of the 1905 Vanderbilt cup race, covered the distance in 56⅕ seconds. Stanley T. Kellogg, riding a 7-horsepower Indian motor cycle, did the mile in 59 seconds and William Wallace in a 60-80-horsepower Darracq in 61⅖ seconds. It is hardly fair to compare Robertson's time with the record of 52 seconds which Walter Christie made on a mile track because the Morris park circuit is 1.39 miles in circumference and only one turn has to be negotiated in covering the mile. The results of the short races were as follows:

WORKING THE TRACK DURING THE INTERMISSION

Eighteen-lap, about 25 miles, Motordrome championship. Open to stripped or full equipped stock touring cars or runabouts of 60-horsepower or less—Vaughan, 30-horsepower Stearns, won; C. Carlton, 30-horsepower Packard, second. Seven starters. No time announced.

Three-lap motor cycle race. Open to all single-cylinder machines of less than 30½ cubic inches piston displacement—Walter Goerke, Indian, won; J. L. Siddell, Indian, second. Six starters. Time, 5:35.

Eight-lap road race over the Allen course. Open to all gasoline cars, fully equipped or stripped runabouts or touring cars, of 5½-inch bore or less, about 45-horsepower or less—Wallie Owen, American Mors, won; Ned Crane, English-Daimler, second. Three starters. Time, 22:13.

A special race for Ford runabouts with four starters also was held. A race for taximeter cabs was another of the events.

VIEW OF LAWN IN FRONT OF THE STAND

START OF THE 24 AFTER THE INTERMISSION

KILLED IN TRACK RACE ON THE COAST

Roy Rehm, Driving Matheson, Crushed Under Car as It Turns Over—Racing on Mile Tracks at End on the Pacific Coast

SAN FRANCISCO, CAL., Sept. 25—Motor racing in California on Saturday saw its second tragedy within a week, when Roy Rehm, a well-known western driver, met his death in the meet of the Automobile Club of California at Del Monte. He was crushed to death in the wreck of the big Matheson car he was driving. His mechanic, Herbert Martin, was badly injured but is recovering. It was exactly a week previously that Ernest R. Kelly, the eastern driver, was so badly injured when his Thomas roadster went through the fence at the state fair meet at Sacramento that he died 2 days later. The effect of the two accidents, coming so closely together, upon the public mind means the end of the racing game in California for the present season, at least, if not for good.

The tragedy at Del Monte occurred in the last race of the meet—a 50-mile contest for high-priced touring cars. The accident occurred in the twenty-fifth lap of the race, when, besides Rehm's Matheson, there were left in the contest a Stevens-Duryea little six and a 60-horsepower Stearns. The cars were stock, with the mud guards, mufflers, lamps, etc., removed. The Matheson was running about three-eighths of a mile behind the Stevens-Duryea and the Stearns. It passed the grand stand, and began to take the turn. Rehm had been in a race in the morning and had not won a place, and in the afternoon his car was working better and he seemed determined to redeem himself. He took the turn at a speed estimated at between 45 and 50 miles an hour. Suddenly there was a sharp report and his car began to swerve violently. It went toward the rail. Rehm, instantly realizing his danger, made a great effort to control the machine. He headed it away from the rail, but just then the rear left wheel, the rim of which had been digging deep into the dirt, collapsed entirely. The heavy car slewed around so its radiator pointed back toward the grand stand, then it rolled over completely and again quarter way. Rehm had been thrown out at the first turn, and as the car finally settled on its side the front wheel landed on his head, crushing his skull. The mechanic, Martin, was thrown just clear of the car and escaped with a broken shoulder and some internal injuries.

The condition of the tires seems to indicate that a pinched inner tube in the rear left wheel was the cause of the disaster. It is also generally believed that the four lugs used were entirely insufficient for racing purposes, although the car had stood up well in previous race meets. This was Rehm's first year of driving, but he had won a reputation as a clever man. He had several times handled the steering wheel of the Thomas in different parts of the state, and had met with great success. He was a man of nerve, and if necessary took the turns with the throttle wide open.

There has been a great deal of discussion of the future of the race game here. The accident, occurring as it did before the eyes of thousands of spectators, naturally caused a profound sensation, and it was generally predicted that the last motor track racing in this state had been seen. The public mind is fickle here, as elsewhere, however, and already there is talk of next season. The drivers then will insist that the tracks be heavily banked so as to relieve the strain on the tires as the cars negotiate the turns. It is possible also that a 2-mile track may be constructed to allow of easier turns, and also to give greater chance to throw the high-powered cars wide open and get their best out of them.

The meet on Saturday was the second given by the Automobile Club of California during the present season. The preliminary endurance run from San Francisco to Del Monte, 125 miles over rather bad roads, was participated in by many cars, but owing to a misunderstanding about the timing at the first control only four cars received absolutely perfect scores—that is, arrived on the instant of the minimum time allowed. These were two White steamers and two Tourist cars, the latter a product of California. The summary of the track races is as follows:

Five miles, for touring cars, 24 horsepower and under—A. Piepenburg, White steamer, won; J. A. Nikrent, Tourist, second. Time, 6:35.

Five miles, for runabouts, 24 horsepower and under—J. A. Nikrent, Tourist, won; A. Piepenburg, White steamer, second. Time, 6:28.

Ten miles, for touring cars 25 horsepower and over—A. Piepenburg, White steamer, won; A. Van Valin, Stevens-Duryea little six, second; J. Fleming, Pope-Hartford, third; Roy Rehm, Matheson, fourth. Time, 11:37 3-5.

Twenty-five miles, for runabouts 25 horsepower and over—Bert Dingley, Thomas, won; Fred Spence, Studebaker, second. Time, 27:56.

Fifty miles, free-for-all for touring cars—Unfinished because of accident.

TABLE SHOWING SCORE BY HOURS MADE IN MORRIS PARK 24-HOUR RACE

Order Finish	Car	H. P.	Drivers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Fiat	35	Cedrino—Parker	43	47	44	46	47	44	45	46	46	49	47	49	47	50	49	47	38	49	25	20	35	24	20	30
					90	134	180	227	271	316	362	408	457	504	553	600	650	699	746	781	830	855	875	910	934	954	984
2	Studebaker	35	Holmes—Ditman	43	47	43	40	41	40	30	45	40	43	46	36	43	45	41	44	43	42	20	21	26	28	14	17
					90	133	173	214	254	284	329	369	412	458	494	537	582	623	667	710	752	772	793	819	847	861	878
3	Itala	40	Zumbach—Carriere	43	37	38	36	44	45	36	40	36	41	36	39	37	41	37	45	41	48	19	29	28	21	28	28
					80	118	154	198	243	279	319	355	396	432	471	508	549	586	631	672	720	739	768	796	817	845	873
4	Frayer-Miller	50	Knepper—Webster	44	38	44	43	38	43	43	28	47	28	25	46	34	35	38	36	39	25	4	16	18	00	25	19
					82	126	169	207	250	293	321	368	396	421	467	501	536	574	610	649	674	678	694	712	712	737	756
5	Allen-Kingston	30	Campbell—Blakly	43	37	46	35	33	46	41	46	41	36	48	43	39	46	28	00	00	00	18	31	25	22	16	14
					90	136	171	204	250	291	337	378	414	462	505	544	590	618	618	618	618	636	667	692	714	730	754
6	Stearns	30	Vaughan—Warren	41	50	43	46	38	41	39	47	47	42	11	18	21	23	51	39	37	42	17	15	00	00	00	23
					91	134	180	216	257	296	343	390	432	443	461	482	505	556	595	632	674	691	706	706	706	706	729
7	Simplex	50	Robertson—Poole	50	51	24	15	38	41	36	39	24	53	23	37	41	00	00	17	56	43	26	17	15	18	13	22
					101	122	137	175	216	252	291	315	368	391	428	469	469	469	486	542	585	611	628	643	661	674	696
8	Stearns	30	Schlipp—Heisas	44	38	1	39	26	46	28	37	46	42	54	22	00	3	52	33	16	00	10	00	16	15	8	18
					82	83	122	148	194	222	259	305	347	401	423	423	426	478	511	527	527	537	537	553	568	576	594
9	Packard	30	Owen—Demos	45	50	34	18	29	45	40	47	47	38	21	41	48	39	35	19	38	33	....	....	....	....	....	....
					95	129	147	176	221	261	308	355	393	414	455	503	542	577	596	634	677	out	....	....	....	....	....
10	Darracq	40	McCullough—Griffith	11	32	33	36	35	18	32	14	00	18	36	18	36	28	44	10	46	28	25	28	4	....	....	....
					43	76	112	147	165	197	211	211	229	265	283	319	347	391	401	447	475	500	528	532	out	....	....
11	Motobloc	35	Gallfiard—Block	48	45	43	40	7	28	39	1	6	39	8	44	16	00	18	23	41	26	8	14	00	....	....	....
					88	129	169	176	204	243	244	250	289	297	341	357	357	375	398	439	465	468	482	482	out	....	....
12	Rolls-Royce	20	Burns—Fuller	44	35	39	19	46	28	41	44	19	31	00	00	00	16	31	32	39	1	3	00	....	....	....	....
					79	118	137	183	211	252	296	315	346	346	346	346	346	362	393	425	464	465	468	468	out	....	....
13	Lozier	48	Michener—Hutchinson	47	50	46	28	23	49	51	38	33	40	46	41	39	29	14	†	....	....	....	....	....	....	....	....
					97	143	171	194	243	294	332	365	405	451	492	531	560	574	....	....	....	....	....	....	....	....	....
14	Lozier	40	Smelzer—Linkrom	50	50	46	47	44	49	30	38	43	31	15	48	out	....	....	....	....	....	....	....	....	....	....	....
					100	146	193	237	286	316	354	397	428	443	486	....	....	....	....	....	....	....	....	....	....	....	....
15	De Dietrich	60	Mack—McMann	52	43	31	30	50	40	43	56	50	00	00	....	....	....	....	....	....	....	35	00	1	....	....	....
					93	124	154	204	244	287	343	393	393	393	....	....	....	....	....	....	....	428	428	429	....	....	....
16	Welch	50	Truwin—Greenwood	39	24	27	47	38	5	20	32	7	1	00	11	00	15	00	28	00	00	31	out	....	....	....	....
					68	90	137	175	180	200	232	239	240	240	251	251	266	266	294	294	294	325	....	....	....	....	....
17	Darracq	40	Wallace—Muneman	44	47	39	38	18	35	45	37	15	00	00	....	....	....	....	....	....	....	....	....	....	....	....	....
					91	130	168	186	221	266	303	318	318	318	out	....	....	....	....	....	....	....	....	....	....	....	....
18	Matheson	60	Buck—Adams	43	36	40	31	33	28	3	2	33	3	00	....	....	....	....	....	....	....	....	....	....	....	....	....
					79	119	150	183	211	214	216	254	257	257	out	....	....	....	....	....	....	....	....	....	....	....	....
19	Matheson	50	Ryall—Lescault	37	35	00	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
					72	72	out	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

The upper figures opposite each car show miles per hour and the lower figures show total mileage to that hour

† Withdrawn

SHOWS BEGINNING TO TAKE ON SHAPE

Arrangements for Two New York Affairs Nearly Perfected —Changes in Chicago's Exhibitors—Rival Show in Detroit

NEW YORK, Sept. 30—The chaste plaster goddess who presided over the last show in Madison Square garden has lost her job. She and her attendant nymphs, who peered impertinently at show patrons from the many pillars of the Swiss garden scene, which was the setting of the show, have been turned adrift by the committee in charge of the eighth show, to be held in the garden November 2-9, and an entirely new scheme of decoration is in favor. This, it is said, will be less ornate, involving no troupe of plaster goddesses and no chorus of nymphs, but on the whole more rich and elegant, and more in keeping with the exhibit. In token of this, a new show girl, duly licensed under the Selden patent, and more up-to-date in costume than the goddess of the last show, has been chosen as the titular deity of the forthcoming exhibition. It is the same show girl who appears on the garden posters and the story is that she is not a mere creation of the poster artist, but a near-portrait, the original of which is a young woman of social prominence, who is a motor enthusocial prominence, who is a motor enthusiast. On the poster this new goddess of the show appears as a sparkling brunette in trim motor garb. She wears a long cape coat of cardinal hue, from beneath the edges of which peep a fawn-colored skirt and substantial feet shod in high-heeled patent leathers. One end of her voluminous veil trails with the breeze and she holds a pair of goggles in her hand, while she averts her face from the background scene, which is of motoring origin.

Rival Show in Detroit

Detroit, Mich., Sept. 28—Detroit will have a rival show this winter, an exhibition conducted as a co-operative venture by the retail dealers of this city, who have banded together and formed the Detroit Automobile Dealers' Association, of which the following are the officers: President, Alex I. McLeod; vice president, John P. Schneider; secretary, George E. Lane; treasurer, John H. Brady; board of directors, the above and Robert L. Fee. The association already has held a meeting at which the plans were quite fully outlined for the show, which will be given the week of December 9. Wolff's park, a summer theater of generous dimensions adjacent to the Belle Isle bridge approach, has been leased for the exhibition. It comprises enough floor space to admit of thirty booths, 16 by 16 feet in size, with two aisles, and the floor space is practically the same as that at the Light Guard armory, where the shows of the past have been held. The week selected will follow the week at Chicago. The location of the dealers' show is an extremely convenient one for purposes of demonstration, as it commands not only the boulevard and park drives of Belle Isle, but also is within easy reaching distance of the Grosse Point pike, which is outside the city limits. Just what the directors of the old Tri-State show will do in the matter remains to be seen.

Palace Demonstrations

New York, Sept. 27—While the modern motor car no longer needs any test or demonstration to prove that it is a practically perfect road vehicle, the majority of the exhibitors at the coming show of the Automobile Club of America, which will be held in the Grand Central palace during the week of October 24-31 are unanimously in favor of continuing the time-honored custom of giving practical demonstrations of their cars to such as ask for them. While they admit the force of the argument that there is no real need of demonstrations, they say that the public asks for them and so long as the purchasers of cars really demand these tests there is no reason why they should not be given. They also say that this is the first year in the history of motor shows where the weather conditions and the season of the year have favored such tests. This is true as heretofore all of the shows have been held in December or January when the snow was on the ground and very few people could be induced to ride in the cars. This year the show will be held in October, the ideal touring month of the year, when the prospective purchaser would really be delighted with a trip into the country. Incidentally for the first time in the history of the shows it will be possible for the prospective customer to get a practical demonstration of the speed of a car, for through an agreement with the Morris park motordrome it will be possible for customers to try out the car they are riding in at the Morris park track, where a force of expert timers will be on duty during the week of the palace show.

Chicago Show Changes

Chicago, Oct. 1—Manager Miles has assigned all the spaces on the main floors of the Coliseum, the annex and the First regiment armory and he finds he has twelve makers on the waiting list—the Buick Motor Co., the St. Louis Car Co., the Oscar Lear company, the Motor Car Co., the Forest City Motor Car Co., the Ovington Motor Co., the Imperial Motor Car Co., the C. H. Stratton Carriage Co., the Model Auto Co., the Simplex Motor Car Co., the Diamond T Motor Car Co., and the Anderson Carriage Co. During the past week Manager Miles made a few transfers and filled up all of the available spaces in the motor car exhibits. The Auburn Automobile Co., of Auburn, Ind., has been allotted F1 in the First Regiment armory, while the Rainier company has taken G3, which adjoins G4, its original assignment, and will occupy the two spaces. New spaces allotted in the Coliseum basement are: 11 and 13, Lauth-Juergens Motor Car Co.; 12 and 14, Shoemaker Automobile Co.; 21 and 22, R. B. McMullen; 24 and 25, Manhattan Screw and Stamping Co.; 27 and 28, Lorraine Auto Mfg. Co.; 31 and 32, National-Acme Mfg. Co.; 46, Warner Clutch Co.; 47, Triple Action Spring Co.; 48, Duplex Coil Co.; 49 and 50. Longdin-Brugger Co.; 51, A. Pfanstiehl; 52, Chicago Wind Shield Co. The Empire Tire Co. has been transferred from space 4 in the Coliseum basement to space 92 in the gallery. Space 4 has been assigned to the Bugombile Co. The Auto Goods Co. has taken space 7 in the basement, relinquished by the Michelin Tire Co. Thomas Prosser & Son have been transferred from space 10 in the basement to space 11 in the First regiment armory gallery, the Prest-o-Lite taking the basement space. The Motor Car Specialty Co. has been assigned space 112 in the Coliseum gallery, while the C. H. Curtiss Mfg. Co. gets space 126 and the Igniter Appliance Co. space 138. New allotments in the gallery of the First Regiment armory are: Space 9, Motor; 13, Edward Meeley; 14, Neumastic Tire Co., and 23 and 24, Manhattan company. The Goodyear Tire and Rubber Co. has taken a space in section W in the commercial accessory exhibition which will be held in the Seventh Regiment armory.

Quakers Rent Armory Again

Philadelphia, Pa., Sept. 30—The show committee of the Philadelphia Automobile Trade Association on Friday last signed a contract for the rental of the First Regiment armory at Broad and Callowhill streets from November 9 to 16, inclusive. Ideally located—right on the row, and within a few minutes' walk of all the leading motor establishments in the city—the armory is pitifully small for the purpose; but it's the best the market affords. As in former years, there will be a grand scramble for space; indeed, the scramble already is on. Secretary Beck began to be deluged with applications as soon as the date was announced last week. At any rate the exhibition will be a representative one, despite the small size of the armory, for coming right after the New York shows the local affair will secure many of the exhibits from Gotham which will be scheduled for the Chicago show a fortnight later. Indeed such arrangements have been made in upward of a dozen instances and the Quakers believe they will have a complete and comprehensive exhibit.

FAST WORK ON A HILL

Rougier in de Dietrich Goes Up Mount Ventoux in France, 13 Miles, at 40 Miles an Hour

Paris, Sept. 17—Rougier in a grand prix de Dietrich captured the honors in the Mount Ventoux hill-climb, winning the event for speed cars in 19 minutes 30⅖ seconds, which, however, misses the record by two-fifths of a second. But when one investigates the performance and finds that Rougier averaged 40 miles an hour for the 13-mile climb up a stiff ascent which has grades of 8 and 9 per cent and 15 and 18 per cent at the numerous corkscrew turnings the performance of the de Dietrich stands out as far above the ordinary.

The Mont Ventoux meeting is France's hill-climb classic and attracts considerable interest. This year the weather was not favorable, for the summit of the mountain was wreathed in fog, and rain and hail greeted the approach of the cars on their upward progress. The meeting was a 2-day fixture and September 14 saw the fight between motor cycles and small cars. Motor cycles are not seen to great advantage in such a meeting, but two of them mounted the hill in 34 and 38 minutes. The Griffon and Motosachoche had it all their own way in this event.

The first class touring cars included two Sizaire and Naudins, with single cylinders of less than 4¾-inch bore. These cars took 43 and 47 minutes on the hill. Another small cars, the Lion-Peugeot, with one cylinder also, but of larger bore than the others, covered the ground in 48 minutes. Of the four-cylinder cars of 1,500 pounds' weight the Buire covered the hill in 46 minutes and the Vermorel in 48 minutes. The third class of four cylinders, weight under 1,800 pounds, brought the time down to 35 minutes, the feat being accomplished by a Bruhot. Madame Werveu in a Werner did 47 minutes, while another Bruhot car of four cylinders, bore under 4 inches, weighing 2,100 pounds, covered the 13 miles in 29 minutes. A Cottin-Desgouttes car of similar size also made the good time of 32 minutes.

Quality was not lacking in the competition, as the times show. Twenty miles an hour up such a hill as Mount Ventoux, with a single-cylinder car catalogued at $800, is not considered bad going, and even the work of higher priced cars than the Sizaire and Naudin and Lion-Peugeot do not put these performances in the shade. Small cars are capable of doing excellent work when properly handled, as recent events have again proved.

The second day the high-powered cars had an inning, but with weather conditions similar to the preceding day the times were not record-breakers. The roads were not in good condition and the slippery and rough surfaces at the summit of the mountain were not conducive to high speeds round the turnings. Still, Rougier covered the 13 miles in 19 minutes 30 seconds, followed by Bablot in another grand prix car of Brasier make in 30 seconds' slower time. This completed the work of the racers and the tourist cars were let out. A 24-30-horsepower Bruhot covered the ground in 28 minutes 4 seconds, a La Buire was but 5 seconds slower and a Brasier car also covered the ground in less than 29 minutes.

Among the 30-40-horsepower cars, with a weight of 2,800 pounds, a Cottin-Desgouttes car was timed in 25 minutes 16 seconds, a Darracq in 27 minutes, a Pilain in 27 minutes 32 seconds and another Cottin-Desgouttes in 28 minutes 18 seconds. A slightly larger car of similar rating was the Mors, which chalked down 28 minutes 22 seconds. Among the 40-60-horsepower cars a Radia was up on the summit in 25 minutes 44 seconds. A class for six-cylinder cars of any bore of engine and any weight of car marked the victory of two Rossel cars, which covered the distance in 24 and 27 minutes respectively.

Events like these are rare in France, where long endurance tests are much more in vogue. However, the Ventoux hill meeting is valuable in that it shows the capabilities of many cars, small and big and the comparisons which can be drawn are instructive in the extreme.

ORPHANS RIDE IN PREMIERS

Indianapolis, Ind., Sept. 27—There was an interesting departure in the annual ride given the children of the Indianapolis orphans' asylum yesterday, when they were given an afternoon of pleasure exclusively in twenty-one Premier touring cars as guests of the Premier Motor Mfg. Co., the Gibson Automobile Co. and several Premier owners and drivers. Just seventy-six children, ranging from tots barely large enough to peep over the side of the tonneau to boys and girls 14 or 15 years old, piled into the cars, a nurse, trustee or other official of the institution accompanying each car. When the children were safely loaded each was provided with a large bag of popcorn by the Premier company and a large photograph was taken of children and automobiles with a revolving camera. Starting from the institution, the Premiers ran out to Irvington, just east of the asylum, then turned and took a 5-mile spin west on Washington street, which has just been repaved. From Washington street the children were taken north on the new Capitol avenue boulevard to Riverside park, followed by a ride through the park, with stops at the animal cages, at the new stone bridge and another stop to watch the White River falls. The river was crossed, and the party started back downtown over the Riverside boulevard. Before returning to the asylum the children were taken through Woodruff place, a residence park which is known for its beautiful drives and residences, then the party drove south to Washington street and out to the institution.

PARKIN AGAIN A STAR

Youngster, Driving His Packard 30, Shines in Inter-State Fair Races at Trenton

Trenton, N. J., Sept. 30—Special telegram—The innovation of introducing motor car racing as a feature of the interstate fair which opened here today was a great success, the record for first-day crowds being topped by fully 5,000. There were six races on the program, five of which were handicaps, the starts accorded the lower-powered machines ranging from 25 seconds to 3 minutes. The 30-horsepower Packard, owned and driven by Joseph W. Parkin, Jr., who won the 100-mile races in Philadelphia recently, finished first in three events in which it started, including the 25-mile free-for-all, beating out in the latter such fast ones as the 60-horsepower Stearns and the 40-horsepower Walter.

In the 10-mile handicap the Stearns and the Mitchell collided at the far turn and the latter was catapulted into the outer rail, leveling 25 yards of the fence and wrecking the car, but, fortunately, injuring neither Driver H. J. Greenwald nor his mechanic. In the same race, within an eighth of a mile of the finish, the Parkin Packard, scratch car, and the 12-horsepower Franklin, which had a start of 3 minutes, had a slight collision, from which there was no resulting damage. The Franklin driver, Eisenberg, however, filed a protest with the referee, claiming his car had been fouled. The matter will be put up to the A. A. A.

In the reliability run from Philadelphia this morning the Stanley club won the cup for the largest representation with eight cars in line. The winners of the other two cups have not been announced, all the checkers' returns not having been filed. The summary of this afternoon's races at the interstate fair track follows:

Five miles, open to all stock cars—James Endicott, 60-horsepower Stearns, scratch, won; William H. Sharp, 18-horsepower Mitchell, 55 seconds, second; H. T. Eisenberg, 12-horsepower Franklin, 55 seconds, third. Time, 7 :03 2-5.

Mercer county championship, 5-mile handicap, owners to drive—W. H. Sharp, 18-horsepower Mitchell, 1 :15 handicap, won; H. T. Eisenberg, 12-horsepower Franklin, 1 :40, second; D. W. Harper, 20-horsepower Stanley, scratch, third. Time, 7 :59.

Ten-mile handicap, championship of New Jersey, open to stock gasoline touring cars listing $5,500 and under—J. W. Parkin, 30-horsepower Packard, scratch, won; H. T. Eisenberg, 12-horsepower Franklin, 3 :00, second; James Endicott, 60-horsepower Stearns, scratch, third. Time, 14 :04 2-5.

Five-mile handicap, for steam cars—D. W. Harper, 20-horsepower Stanley, scratch, won; George Vennel, 20-horsepower Stanley, :40, second; J. F. Moriarity, 10-horsepower Stanley, 1 :10, third. Time, 7 :26.

Five-mile handicap for stock gasoline cars listing from $2,000 to $3,500—Joseph W. Parkin, Jr., 30-horsepower Packard, scratch, won; Edward Walter, 40-horsepower Walter, :25, second; James Endicott, 60-horsepower Stearns, scratch, third. Time, 7 :02 1-5.

Twenty-five-mile, open to all stock cars—Joseph W. Parkin, Jr., 30-horsepower Packard, won; Edward Walter, 40-horsepower Walter, second; James Endicott, 60-horsepower Stearns, third. Time, 36 :25 3-5.

There will be more motor car racing

on Friday and Saturday, the horses holding forth on the intervening days. Friday and Saturday there will be a twice-around-the-clock event, limited to ten entries. As an attraction for the large number of Philadelphia motorists who attended the races the fair management hung several handsome prizes for the reliability run which was run over a round-about course between the Quaker City and the Jersey capital and which was contested this morning.

MOTOR USES COMPRESSED AIR

Boston, Mass., Oct. 1—The newest thing in motoring is a motor car run by compressed air. Last Saturday there was tried out for the first time here a motor car with air for a propelling force. It was not a public exhibition, for the inventor wanted to wait until he was certain of results before announcing the new patent. The trial was held at the Atlantic works in East Boston and those who saw the motor work were much surprised at what it accomplished. Later on it was given a trial run up and down Tremont street. The inventor of the new idea is Charles Lamont, of Chelsea, Mass. For 15 years he had been employed at the Bridgeport Motor Works and while there the idea came to him that a motor car could be run by compressed air. So he began experimenting several years ago and at last he has brought it out. The details are not all obtainable just yet, but they will be made public this week, for a hall has been hired in which to exploit the new machine. A gasoline motor works the air chambers. One feature is an air-brake. It is proposed to form a company and manufacture cars here. Two Chicago men are interested in the patent rights. C. C. Corbin, formerly connected with the Chicago Mail, is one of them, it is announced.

LIBRARY FUND PROFITS

Grand Rapids, Mich., Oct. 1—With the passage of the new law requiring license numbers on both front and rear of motor cars, Grand Rapids owners have been caught napping and the city library fund has profited thereby. Last week the police court justices each day fined two or more who failed to comply with the new law. The rear light ordinance was also put into effect last week and several whose rear lights had blown out or who carried none at all were brought into court. In several cases no attention was paid to the summons and warrants were issued before the unlucky ones realized the seriousness of the offense. The automobile club is pushing the new age limit ordinance. The ordinance has not as yet been passed but the committee has announced that no person under 16 years of age will be allowed to drive a car. The club also is interested in a new ordinance requiring all vehicles to carry lights or to show some sort of signal at night.

MAKE IT A MOTOR TEST

Ten Economy Run Cars To Try for Silent Knight Cup Under New Weight Scheme

Chicago, Oct. 1—The aftermath of the recent economy run of the Chicago Motor Club to Valparaiso and return will be contested over a 200-mile course running from Chicago to New Carlisle, Ind., and return Friday, October 18, and it will be more of a motor test than an economy proposition. Plans for the running of this unique contest were completed this week by the technical committee of the club, David Beecroft and F. E. Edwards, after a consultation with Charles Y. Knight, of Knight & Kilbourne, donor of the trophy.

Conditions somewhat out of the ordinary have been framed by the committee, but in mapping out the details Beecroft and Edwards have endeavored to originate something that will be different from the usual cut and dried tests so common in this country—something of technical value and which will tell the buying public something of the merits of the different engines. In the first economy run no limit was placed on the weight each car carried so long as the rules were lived up to in the matter of passenger capacity. This resulted in overloading in several instances, it being the general belief that the more beef carried the better the chances of winning. So the committee has nipped this proposition in the bud by ruling that each car must carry 13½ pounds for each cubic inch of cylinder displacement. This was arrived at by averaging the cylinder displacement of the ten cars that have qualified for this test. The average was 11 pounds, but Mr. Knight suggested increasing this to 13½ pounds, as the Silent Knight's average was 11 pounds, and he did not wish to appear to be getting any undue advantage because he donated the cup. So the committee changed it. The field in the aftermath will be made up of the ten cars that made the best showing in the Chicago-Valparaiso run. The cars, their entrants and their order of finish were as follows:

Car and horsepower	Entrant
Pierce-Arrow, 28-30	H. Paulman & Co.
Berliet, 24	Walden W. Shaw Co.
Pierce-Arrow, 45	H. Paulman & Co.
Silent Knight, 35-40	Knight & Kilbourne
Diamond T, 40	C. A. Tilt
Locomobile, 20	Locomobile Co. of America
Corbin, 24	Bird-Sykes Co.
Berliet, 24	Walden W. Shaw Co.
Haynes, 30	C. S. Winslow
Apperson, 40	J. F. Gunther Co.

It does not necessarily follow that the ten identical cars above named will compete for the Silent Knight trophy, as the cup has been designated, the committee deciding that each of the contestants can put in any type of car so long as it is of the same make as the one that qualified. Several will take advantage of this.

The results will be reached the same as in the previous affair, the formula consisting of dividing the weight of the car by the weight of the gasoline consumed as expressed in half-ounces. Satisfactory results were obtained through the use of this formula and the committee is sticking by it this time.

The run will start at 6 o'clock in the morning and there will be an official pacemaker, which will maintain an average of 20 miles an hour. The contesting cars will be asked to do 17 miles an hour, and allowances will be made for tire troubles, although the committee will insist that all the cars shall have finished by 9 o'clock at night in order to have a chance.

NEW YORK AFTER BIG TRACK

New York, Oct. 1—New York motorists already have ceased to discuss last week's racing at Morris park track and are devoting their attention to the future of the competitive sport in this city. There is no questioning the demand on the part of the local trade and many private owners as well for more of the exciting sport provided by contests on circular tracks. The effect of the fatal accident which occurred on Saturday morning at Morris park has been to start a strong agitation for a special circular track hereabouts on the lines of the Brooklands course in England. This morning it was announced that a syndicate of capitalists had been organized to construct such a track on a tract of 100 acres on which an option has been secured at Westbury, Long Island. A hotel to rival the new Château des Beaux Arts at Huntington and extensive garage accommodation enter into the scheme. While sounding the local trade on this project this morning the Motor Age representative discovered that several big dealers in New York had come together and were planning to promote the construction of a special motor track. The most likely plan under consideration by these progressive members of the New York trade is to join hands with the people owning the Morris park track and who control the Morris Park Motordrome Club, in reconstructing this historic course into a 2-mile circuit with wall-banked turns. The fact that no money would be needed to build grand stands and a clubhouse, as these already exist at Morris park, would, it is figured, offset the additional expense of holding such a large tract of land within the city limits.

EMPIRE STATE REGISTRATIONS

New York, Oct. 1—The registration of motor cars in New York state for the month of September shows an increase of 200, lacking four, over the same month of 1906. This does not include yesterday's registration, which, if equal to the daily average for the month, will bring the total increase well over 204. Lacking 1 day, the September registrations were 907. In September, 1906, the number was 711. The total number of cars now registered with the secretary of state is 47,820.

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WHY MOTOR CAR TRACK RACING STILL EXISTS

MOTOR CAR racing such as the world has seen for the past several months survives because of the morbid condition of the average mortal's mind, because nerve-racked and excitement-craving beings must be fed strong stimulant, because of human weakness, mad business rivalry and faint praise and—because there is no strong hand to stop it.

It survives not alone at the expense of almost a life for each and every meeting, but at the further frequent expense of the life of an innocent spectator.

The record of 1907 is the record of the month of September—at least six deaths and heaven knows how many injuries! It is a record that is appaling even to men whose coarsest sensibilities have been encrusted.

Reaction has not as yet set in—that will come later. It will come at a time when participants of all classes will have awakened to the fact that it is too late to undo the harm that has come to the industry as a business and to motoring as a pastime.

It will be argued that the people through their presence at such events have expressed a desire to have motor car track races; it will be shown that manufacturers seek this means to demonstrate what their cars can do; it will be proclaimed that drivers are only too anxious to contribute their share and their lives for the sake of the little glory they can obtain.

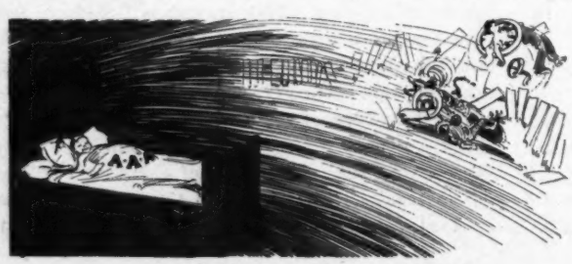
Motor car racing on mile tracks continues because of the lack of men who are strong enough to meet the emergency and say NO! It continues because there is no man who will disregard the weakness of human beings when they cry for something they should not have.

A strong man heads the federal government and he is surrounded by other strong men. They are strong enough to say NO! and to mean it. They are resourceful enough to supply a remedy for a weakness and to supply it without hesitation. Such strong men make strong governments.

Can William H. Hotchkiss, Frederick H. Elliott, Jefferson De Mont Thompson, William K. Vanderbilt, Jr., A. R. Pardington and some of the lesser lights in the American motor car governing body—the American Automobile Association—slumber sweetly and be undisturbed with visions of race track horrors that must pass before them?

Do they believe they are justified in sanctioning events which—as a novice in prognostication could tell—will bring death to somebody?

Do they believe they are benefiting motoring by holding to such a dangerous sport?



Are they strong men or are they weak men?

Are they in favor of cars of unlimited power racing on tracks capable of withstanding very limited speed?

If not in favor of this kind of sport, are they strong enough to put a stop to it and are they resourceful enough to supply the public, the trade and the promoters with something safe and sane and exciting?

Are these men officials for the purpose simply of handing out slips of meaningless paper for small considerations, without a question, without an explanation, without anything but the money—or have they been placed in exalted positions because of their highly developed mental capacities?

Perhaps William H. Hotchkiss is personally opposed to racing; perhaps Mr. Elliott and Mr. Thompson and Mr. Vanderbilt and Mr. Pardington are also so opposed. Perhaps the fault is that the American Automobile Association has been formed in so awkward a fashion that the executive officers have no material power, that they are precluded from exercising the ordinary functions of executive officers, even in crucial moments.

If they are so opposed to racing and the American Automobile Association is so crudely formed as to tie the hands of its officers, the officers alone are to blame.

They have, then, accepted position not on their own platform, but on the platform of others and to which they are opposed.

They may admit either position and their defense can be none the stronger, whichever stand they take.

The lessons of 1905 were sufficient to put a natural quietus on the game for 1906, but they were not sufficient to open the eyes of those in authority to a realization of the seriousness of the situation. Will the record of September, 1907, have any effect?

The officials of the American Automobile Association must NOW step in and make reforms; they must put a stop to racing wherein the cars are too fast to be safe for the tracks upon which they are used; they must devise means whereby the sacrifice of human lives may cease.

Federal, state and municipal governments have been called upon to stamp out evils of lesser magnitude than the present-day racing game; they would never give their sanction to such death-dealing affairs.

Are William H. Hotchkiss, Frederick H. Elliott, Jefferson De Mont Thompson, William K. Vanderbilt, Jr., A. R. Pardington and their associates equal to the emergency?

AMERICANS who have participated in hill-climbs have a standard in the Mount Ventoux contest. The Mount Ventoux road is 13 miles long and averages from 8 to 9 per cent grade all the way. At the time of the climb the rain was falling on the lower portions of the road and hail on the upper portions, so that the going all the way was the worst that could be hoped for. Despite these conditions Rougier in a de Dietrich climbed the 13 miles at a rate of 40 miles an hour. With all respects to the hill-climbing events that have been held in this country it must be said that, for the purpose of making a test of motor power, this is about as strenuous as could be desired and something well worth advertising in the line of performances. The only pity is that this country cannot find something of the kind in order to show what American motors can do in hill-climbing.

PREPARATIONS are practically completed for the running of the contest for the Knight trophy, which is something of an aftermath of the Chicago economy test. The experience gained in the first contest has suggested a number of changes in the rules in order to put all the contestants on practically an even basis. This contest will be more of a motor efficiency test than an economy test. After all, the matter of motor efficiency is what is sought rather than the simple saving of fuel. After the Knight trophy has been contested for something may crop up to permit a still further improvement in the rules, so that a contest between various makes and various types of cars will be something that will be recognized as a standard of measurement and something of a guide for the intending purchaser.

EVEN the local dealers have been taken with the early show fever and the Detroit dealers, having organized, are to be in line with their own show immediately following the close of the Chicago affair. Is it not a mistake to hold a local show as early as the first week in December? Will the prospective purchaser place his order so early in the manufacturing season? Are prospective customers thoroughly warmed up over buying at this time of the season? It may be possible the Detroit dealers will find this a wise proposition, but it is not believed it is good business for the average city, as a local show is naturally a selling one and should be the most successful if conducted immediately before the opening of the driving season.

FEDERAL road experts seem to take little stock in the talk about the quality of the old Roman roads, for notwithstanding the fact that the latter had foundations 3 feet thick and cost something like $50,000 a mile to build, the modern way is to build roads whose foundations are only 4 inches thick. This is the scientific way to build roads, and might in a measure be satisfactory were the plan followed out, but there is this difference between the old Romans and Uncle Sam: The former may have been shy on the science of road building but built roads, while Uncle Sam is long on science and short on the building end. Put in another way, the Romans did something and your Uncle Sam talks.

"IT IS to be a tough fight and—well, perhaps nothing will happen." But Motor Age was mistaken.

NO BETTER evidence of the interest that was taken by everyone in attending the convention at Springfield, Mass., devoted to roads and legislation was manifested than when the delegates insisted on remaining at each session until their work was thoroughly completed. Ordinarily at conventions the delegates like to saunter out and smoke and get away at the earliest opportunity, and fewer than half, and sometimes only a quarter stay during an entire session. At the Springfield convention the morning session did not close until after 1 o'clock, the delegates all staying there for more than 4 solid hours. In the afternoon they assembled at 3 o'clock and when the hands of the clock were creeping past 6:30 and someone suggested the remaining papers be put over until the evening banquet, a motion to continue until the finish then and then was unanimously passed.

DO YOU believe racing on such tracks as we have today should continue? Read the list of the race track fatalities for 1907—all in one month. Read also the list of minor accidents. Luck saved these from the other column. But don't overlook the accidents of 1905, when Kiser lost a foot, when Webb Jay lay for months hovering between life and death and when Barney Oldfield went through fences and mowed down spectators. The 1905 accidents put a quietus on racing in 1906. In 1907 it broke out again. Look at the result. Now do you want track racing to continue—to give machines and tires and motoring black eyes?

Killed in Track Races
1907

CLARENCE V. DASEY
September 2 — Denver, Colo.

WILLIAM B. FELKER
September 2 — Denver, Colo.

RAY REINERTSEN
September 10 — Pittsburg, Pa.

ERNEST KELLY
September 19 — Sacramento, Cal.

ROY REHM
September 21 — Del Monte, Cal.

L. W. SMELZER
September 27 — New York

Injured in Track Races
1907

ZERBES AND MECHANIC
June 28 — Minneapolis, Minn.

A. C. MORRISON
July 4 — Lowell, Mass.

GLANNON
July 4 — St. Louis, Mo.

CHESTER B. SMITH
August 31 — Reading, Pa.

WALTER CHRISTIE
September 10 — Pittsburg, Pa.

DUSENBERG
September 21 — Milwaukee, Wis.

OHIO WANTS THE BEST

State Highway Commissioner Calls Halt on the Contractors Who Furnish Poor Stone

Toledo, O., Sept. 28—State Highway Commissioner Huston is experiencing troubles establishing his new department due to the fact that some of the stone companies seem determined to put off on the contractors for the state highways crushed stone of miserable quality. No amount of protesting will prevent the shipment of such stone. The state commissioner through his local inspectors and engineers is rejecting all of this. In some cases the stone is mixed with dirt and often wholly unscreened is sent when screened crushed stone is called for.

It is claimed that the stone companies have been selling this poor stone to township trustees, who rarely employ an engineer or other person competent to judge of the quality, and most anything that looks like crushed stone goes without question. In a number of instances the very stone which has been rejected by the state commissioner has been sold to township trustees in the immediate vicinity for road purposes. To just what extent this imposition has been carried on among township trustees is of course unknown, but it is estimated that enormous quantities of inferior crushed stone have been used in this way in Ohio road building this summer. An effort will be made to put a stop to the practice.

At the last meeting of the legislature an appropriation of $300,000 was made by that body to be expended on the roads of the state of Ohio. This appropriation was made in addition to the ordinary and regular sources of revenue set apart for that purpose. Under the provisions of the law making the appropriation this sum was to be apportioned among all of the counties of the state, giving to each of them the sum of $3,409.08. The measure came as the outcome of agitation set in motion by the good roads associations and motor clubs in the state, and was intended to act as a stimulus to good road building by the various local communities. The money was to be expended in any one of three ways—for construction, for reconstruction or for repairs, and the county commissioners were given full authority to choose for which of the three purposes the money should be expended.

Up to the present time provision has been made for the expenditure of only a little more than $180,000, leaving more than $100,000 uncalled for in the treasury and available for use. Fifty-three counties have received or will receive their proportion, while fourteen more counties have petitioned and were refused their share for various irregularities.

The difficulty with the appropriation seems to be that it carries with it certain requirements to be met by the county receiving the assistance, and that in some cases those exactions have been odious to the particular community in which the money was to be expended. The object of the legislature evidently was to secure a first-class system of highways throughout the state, and in making the appropriation it demanded that the various counties should also expend sufficient sums to insure such a result.

While the appropriation has perhaps not done all that was expected of it when the donation was made, it has doubtless resulted in much road improvement in Ohio that otherwise would not have been accomplished. There is no denying the fact that the general condition of the highways of this state is far better than it was a year ago, thousands and thousands of dollars having been expended upon the roads in macadamizing and otherwise improving them. Neither can there be any doubt that much of this improvement is due to the fact that the appropriation was made by the legislature, thus reducing a burden which in many counties would have otherwise been extremely odious.

BETTER THAN ROMAN ROADS

Indianapolis, Ind., Sept. 30—One of the interesting features of the annual meeting of the State Association of County Commissioners, held here last week, was an address on "Modern Road Building" by J. J. Dodge, road expert of the department of agriculture, Washington, D. C. He said present day roads are better than those built by the Carthagenians and Romans 2,000 years ago. "In those days roads were built at a cost of not less than $50,000 a mile," said Mr. Dodge. "Stone and gravel were put on to a thickness of 3 feet, and the builders paid no attention to grades and curves. They made great cuts through mountains and enormous fills where a slight deflection would have eliminated the expensive work. But these roads were easily worn down by traffic. Hundreds of years later the depth of road material was reduced to 2 feet, then to 1 foot and less, until now the government is building roads and advising states and counties to build roads that are only 4 inches deep. And the results are better than in the olden times, because the foundation is better and is more scientifically constructed."

RENAULT SEEKS A MATCH

New York, Sept. 30—Paul La Croix has issued a challenge to match the Renault, winner of the first Morris park 24-hour race, against the Autocar, Lozier, Thomas and Fiat, winners of the two Philadelphia, the Brighton Beach and last week's 24-hour races respectively, in a similar contest to be held at Morris park before the middle of October. Bernin's broken wrist which kept the Renault out of last week's race at Morris park, will be in shape for him to drive in 10 days.

GET LINE ON FARMERS

Tradesmen Visit Wood County Fair in Ohio and Find Motor Car Is Popular in Country

Toledo, O., Sept. 30—The advance being made by the motor car among the Ohio farmers was clearly outlined by a visit made to the Wood county fair by General Manager B. F. Everitt of the Wayne Automobile Co., and T. F. MacManus and W. B. Snyder of the MacManus-Kelly Co. The Wood county fair is unquestionably the largest and most widely known fair in Ohio, excepting only the state fair at Columbus. There is always a good card of races in addition to an abundance of exhibits, and crowds flock to Bowling Green, the place near which it is held, by the thousands. As the new Wayne Thirty drove in at the carriage gate, Mr. MacManus, who always attends the Wood county fair, noticed a surprisingly large number of motor cars—a far greater number than he ever had seen at the fair before. The word surprisingly is used advisedly because there were almost as many motor cars at that gate as there were carriages, notwithstanding the fact that the place was packed with farmers from all over the county. A ramble to the other end of the grounds showed still more machines grouped at the other door, and many were passed between the two gateways to the grounds.

This enormous display of motor cars at a farmers' fair so excited the curiosity of the Toledo party that the secretary of the fair was sought in an effort to discover how many motor cars had been registered. It was found that up to that time 616 had been registered at the fair and that this was little more than half of the number that actually came in, for about that proportion failed to register. Turning back to his books of 3 years previous, the secretary of the fair showed that at that time in an entire week just three motor cars were registered at the fair by their owners.

Pursuing the subject still further, Mr. MacManus asked whether or not all of the cars were Toledo cars. In answer to this question the statement was made that the percentage of Toledo, Cleveland and Columbus cars at the fair was small, and that most of the owners of the cars were farmers and representative people living in the rural districts.

"The idea that the farmer is opposed to motor cars is all bosh," said the secretary, with a smile. "Of course, there are a few ignorant farmers who are opposed to everything excepting what they have themselves; but my observation from practical experience and considerable travel throughout the state is that the motor industry is reaching almost every locality and that the percentage of cars owned by farmers is rapidly increasing.

Surely this showing is a good standard by which to judge, for the Wood county fair draws people from all over. The farmer realizes that the motor car is here to stay, that it is just as much a necessity as the telephone which he now is using freely and in consequence of these convictions he is ready to forget his old prejudices and now he is taking to the new method of transportation as can be seen by counting the cars here today.''

RULES ON NAME REGISTRATION

of ex parte the Rainier Co., being an appeal from the action of the examiner of trade marks refusing to register the word Rainier as a trade mark for motor cars, the commissioner of patents has affirmed the examiner's decision. Registration was refused on the ground that the word Rainier is geographical and on the further ground that it is the mere name of an individual not written in a particular or distinctive manner. That the word Rainier is the name of an individual was not controverted by the applicant; but it was contended, first, that it is not merely the name of an individual, and, second, that if it is merely the name of an individual it is written, printed or impressed in a peculiar and distinctive manner, and therefore registrable. This first contention is based on the ground that besides being the name of an individual Rainier is the name of a mountain in Washington. The use of the word is, however, not its principal use, and its primary significance is as the name of an individual, as is shown by the fact that the word constitutes the distinguishing feature of applicant's name, which is apparently derived from the name of an individual. The word is written in large script letters with a flourish extending from the letter ''R'' beneath certain letters of the word. This is not such a distinctive display of the name as required by the trade mark act. It was held by the commissioner in a former case that a family name printed in script on a diagonal line, the letters being shaded so as to appear in perspective and with a paragraph under the word, was not such a distinctive display as to justify registration.

CLUB HELPS IN ELECTION

Washington, D. C., Sept. 30—In the case Grand Rapids, Mich., Oct. 1—The Grand Rapids Automobile Club was largely instrumental in securing the passage of the good roads proposition. It was only through the efforts of the members in rushing voters to the polls in motor cars that the bill was passed and then only by a small majority of 142 votes. By the passage of the bill the state appropriates $1,000 for every mile of improved road. With seven main roads leading into the city, all of which are used by motorists, Kent county will in the future have roads 40 feet wide and made according to the state road commissioners' specifications. It is thought the work will start immediately.

TRIP A STRENUOUS ONE

Denver Business Man Drives Winton to Gunnison and Return, Finding Rough Going

Denver, Colo., Sept. 27—Through washouts, snowslides, snow storms and landslides, swollen streams and timber-strewn roads, crossing tops of mountains at an elevation of 12,500 feet, taking his car into towns whose inhabitants never before had seen such a thing, and making this remarkable trip without any damage to the mechanical construction of his model M Winton, is the proud accomplishment of George W. Coffin, president of the Coffin Packing and Provision Co., Denver, Colo.

Mr. Coffin was bent on a fishing trip, and he decided to go into the wildest part of the mountains, off the beaten paths, so to speak, where the crowds do not rush and where the gamy trout is unacquainted with the wiles of man. He selected Gunnison, on the western slope. By rail this point is about 300 miles from Denver. By the way Mr. Coffin traveled it is twice the distance. Add to this the other points he visited when once he got among the clouds and became fascinated with the venture, and the mileage on the return trip, and he covered approximately 1,500 miles.

In going to Gunnison Mr. Coffin went down to Colorado Springs and through Ute pass westward to Divide, Florrisant, Hartsel, Salt Works, a few miles further on crossing the continental divide at an elevation of 9,105 feet, then to Buena Vista, and south to Salida, 2,000 feet lower, then up again and over another pass, Poncha pass, altitude 9,061 feet; again dropping down, passing through Villa Grove on to Saguache, making a total drop of 1,500 feet. From here there was a steady climb to 10,000 feet, the top of Cochetopa pass. Again came a descent to Iola, which is 7,609 feet above sea level.

After spending 2 months making short fishing trips from Gunnison to various points, his pleasures being shared part of the time by F. B. Hower, chairman of the A. A. A. touring board, the return trip to Denver was begun. Pitkin, at an altitude of 9,220 feet, was the first stop. Rudolf Heffner, the mayor of Pitkin, who testified that Mr. Coffin was the first to reach the town with a motor car, was so elated at the achievement that he filled the tonneau with cigars and things calculated to cheer. Mr. Coffin not only took Mayor Heffner on a trip through his native town, but the children of Pitkin had a turn and the big car which had penetrated the mountain fastnesses without damage and breaking nothing but records, smashed another mark, this time for the number of passengers it could carry without spilling them. Twenty-nine youngsters were stowed away at one time, inside and out, on the steps and the mud guards, until the Winton looked like a city street car at 6 o'clock in the evening—all but the straps.

Leaving the mining town he crossed over Gold hill, to Tin Cup, altitude 10,500 feet, and next accomplished the greatest feat of his journey, going over Alpine pass, 12,500 feet above sea level, to St. Elmo. Here is where he got into a terrific snow storm. It was best to get out of it as soon as possible, so he kept going until he again reached Buena Vista. The next day he resumed and a few days later reached Denver. After leaving the fishing grounds he depended entirely on ranchers for meals, although there were frequent occasions when he and his party might have had venison if they had had their guns with them. One time the car came within 20 feet of a bunch of deer. Instead of guns, the party had axes and coils of rope for weapons, to fight themselves out of bad places in the roads. Many times at the higher altitudes the roads were filled with water or rock or landslides from the melting snows. Great trees lay in their path and the rocks were numerous. In many places it was necessary to build up the road with rocks or logs. Mr. Coffin did not attempt to break any speed records. He made the trip to Gunnison from Denver in 2½ days, and the return, over a more difficult route, in 3½ days. Part of the time he carried five extra people. No accident of any kind befell him or the car—the only repair was a punctured tire. The changes in elevations did not seem to have any effect on the motor or the carbureter. Barring the extraordinary conditions, the car might as well have been running in Denver.

MICHELIN PLANT ALMOST DONE

New York, Oct. 1—Seven of the new buildings being erected at Milltown, N. J., for the Michelin tire people are completed and the eighth one is almost done. Imported machinery has been received and the work of manufacturing will begin at once. The property, purchased from the International A and V Tire Co., consists of about 80 acres of ground and included four five-story buildings. The new Michelin plant when completed will have about 8½ acres of floor space. A new 2,440-horsepower plant operating two 1,000-kilowatt turbines made by Westinghouse has been installed. In addition there is an auxiliary power plant of 700 horsepower. The products of the American plant will agree identically with those of Clermont-Ferrand, France; Turin, Italy, and London, England, and the same formulæ, machinery, etc., is used in all. The Michelin experience in compounding rubber dates back 75 years to 1832, when Mr. Michelin's grandfather began the rubber goods business in Clermont-Ferrand, France. Up to June 1 of the current year Michelin has made 1,186,830 tires, an average of over 107,000 per year for 11 years past; or enough tires to equip 22,000 machines yearly during the 11 years since 1896.

THE READERS' CLEARING HOUSE

DYNAMO FOR IGNITION

Dayton, O.—Editor Motor Age—That the dynamo will ultimately replace all other methods of electrical generating for ignition purposes seems highly probable. The reasons which follow will, I trust, demonstrate that as a direct or indirect source of ignition current its place in the ignition field is assured. Pre-eminently the dynamo as a current generator is absolutely and permanently self-contained and independent of outside assistance at any time. This means much in the long run for the isolated plant, motor boat owner and commercial proposition. Perhaps equally important is the fact that a dynamo may be readily designed to generate sufficient current for ignition work, while running at a speed of not over 1,100 revolutions per minute. It is therefore possible in many cases to start the engine direct from the dynamo, without the use of any batteries, and thus all upkeep expense is permanently eliminated. Furthermore, as it is well understood, slow speed adds greatly to the life of bearings and moving parts and also to the wear on the brushes and commutator. The liability of insulated parts breaking down with a slow speed generator is a remote one. For touch spark work the dynamo may be used directly connected through the coil to the engine and will be found the most satisfactory method of igniting the same, because of the higher voltage which it is possible to obtain before the circuit is closed and because of the extreme durability and reliability of a mechanical generator, as above stated. Owing to inherent principles of a dynamo, it is advisable for jump spark work to supply the current to the coils from a storage battery. Without the slightest question of a doubt, the current from an accumulator is best suited for a vibrating jump spark coil. Its quality is even and pressure constant. The dynamo is for all practical purposes the only method of keeping a storage battery in condition and it will be found that one furnishing direct current at the proper voltage and amperage will be most satisfactory. Alternating current may only be employed in connection with an expensive mercury arc rectifier and in a majority of cases direct current from an outside source is not available. Under any light a generator especially designed for the work it has to do is most recommended and such an instrument may be directly connected to the battery to be charged, without the intervention of resistance material of any kind. A magneto will not charge a storage battery. The writer has found a surprisingly large percentage of cases where a small dynamo of the type referred to is directly connected to a jump spark coil and used with absolutely satisfactory results, sometimes with interposition of a lamp or two in parallel with the circuit. The reason why this is not always commended is because of the fact that the condensers of some coils will not discharge against the inductance of the dynamo windings. There has been some objection advanced against the dynamo for ignition work, as it is claimed it cannot or has not been satisfactorily driven. The output of a dynamo varies almost directly as to its speed. It is therefore necessary on a variable speed engine to drive the dynamo with a speed governor, as a constant output is desirable. This can be and is accomplished in a number of successful ways, according to whether the dynamo is driven by belt, gear or friction. It takes but a trifle of power to actually drive the dynamo; hence, a very successful and reliable governor may be manufactured. The writer would state from personal observation that he has seen types of friction and belt drive governors which would maintain the speed of the dynamo constant within a variation of 15 revolutions per minute regardless of the speed of the engine. Inasmuch as there are about 40,000 mechanical generators driven by frictional governors on the market today one can hardly see how this method is other than practical. The dynamo for ignition work has been on the market over 14 years. It has stood the test of time and of actual tryout in the field. Every indication points to the fact that the numerous advantages possessed by the dynamo over any other form of current generation for ignition work, both as regards efficiency, durability and economy, are such that it will eventually be universally used for practically all work of this nature.—R. V. Sutliffe.

LOUGHEED'S PATENT

Woodmere, N. Y.—Editor Motor Age—Can you tell me the number of the patent of the Lougheed motor, described in Motor Age August 22.—V. W. Hewlett.

So far as Motor Age knows the patent has not been finally granted. Write Victor Lougheed, Alma, Santa Clara county, Cal.

CORRECTS AN IMPRESSION

Boston, Mass.—Editor Motor Age—An impression has gone abroad that the Angier Co., 735 Bdylston street, Boston, and 9 and 11 Dorrance street, Providence, has sold out, caused by the sale by O. M. Angier of his personal stockholding in the Angier Automobile Supply Co.—please note the addition of two words in title—located at 222 Eliot street, Boston, and in no way connected with the Angier Co., except that a contract exists under which all goods sold by the Angier Automobile Supply Co. shall be bought of the Angier Co., and no merchandise purchased elsewhere. This agreement still exists with the new company. The Angier Co. has in no way changed its condition as to personnel, stockholding, location or name.—Angier Co., O. M. Angier, treasurer.

STEEL FOR SHAFTING

Berne, Ind.—Editor Motor Age—Will you please inform us where we can buy some of the best kind of shafting that is used for automobile axles and other smaller shafts; also the proper name of the material?—A. J. Moser & Co.

The high grade steels principally used for motor car axles and shafting are known as nickel steel, chrome-nickel steel and vanadium steel. Communicate with Thomas Prosser & Son, 15 Gold street, New York, or Schuchardt & Schuette, 136 Liberty street, New York, for imported chrome-nickel steel. For American grades of this material and for nickel steel, write to the Bethlehem Steel Co., Bethlehem, Pa., and the Carpenter Steel Co., Reading, Pa., for names of their nearest dealers. For vanadium steel write the United States Steel Co., Canton, O., for the names of its dealers or selling agents.

CORRECT VALVE LIFT

Salt Lake City, Utah—Editor Motor Age—I wish respectfully to ask if you will tell me the best formula for finding how much lift the valves have on a gasoline engine. I have a 1906 Thomas Flyer which has been run 18 months. There have been new piston rings put in and when I turn the engine over slowly it shows about 42 pounds compression and if I turn it quickly it shows nearly 60 pounds. The cams give 5/8-inch lift. Is this enough, as the best it will run is 45 miles an hour on level road? The Buffalo carbureter is used and the adjusting of this and the coil makes no difference. After running between 30 and 40 miles the engine will get hot and the water will boil, so that I cannot advance the spark past dead center without the motor pounding. There is no carbon deposit in the cylinders and the water seems to circulate freely.—H. T. Scaife.

Some years ago there was a rule for valve lift, but there are so many different designs of motors now that no particular rule is followed for each different design. It is safe to presume the motor mentioned had sufficient valve lift and it would be unwise to attempt to improve upon the maker's rule. Forty-two pounds initial compression is hardly as much as might

be expected, although it is not uncommon with motors of this size. In all probability there is a loss of compression either past the rings or valves, for the car ought to do better than 45 miles an hour certainly. If the new rings have just been put in, probably they have not become fitted to the cylinder walls. The heating may result from too late ignition, bad mixture, or from the heat of the explosions getting past the rings.

REMOVING CARBON DEPOSITS

Odin, Ill.—Editor Motor Age—Will you please advise me through the Readers' Clearing House how to use kerosene to remove carbon deposits from the cylinders; also the best method of cleaning a muffler.—E. A. Parks.

If a few spoonfuls of kerosene are squirted into each cylinder while the engine is still hot after a run, it will tend to soften the carbon deposits and give them a chance to be blown out the next time the engine is started. This is rather an uncertain reliance, and the best plan is to use scrapers. Frequently it is possible to do the scraping through the spark plug hole or through the openings over the valves. The carbon which causes preignition is most apt to be on the piston head, since this is not so effectively cooled as the cylinder head walls. The best method of cleaning the muffler will depend altogether on how the muffler is built. It may be possible to squirt a liberal quantity of kerosene into it and expel the deposit by running the engine; but this is a decidedly dangerous procedure, as it may result in setting fire to the kerosene and the car. A safer plan is to dismount the muffler and take it apart.

FLOATLESS CARBURETERS

Rock Island, Ill.—Editor Motor Age—Will you kindly inform me if there is a floatless carbureter on the market? I will be very much pleased if you will let me know if there is any and by whom it is made.—George Yeggy.

Write the Newcomb Carbureter Co., 1900 Broadway, New York, and the Lustre Chemical Co., maker of the Gavalek carbureter, 1303 Michigan avenue, Chicago. There are many mixing valves on the market also, although not strictly carbureters, though serving the same purpose.

SELECTIVE GEARS

San Jose, Cal.—Editor Motor Age—Will you please inform me through the Readers' Clearing House the principles of the sliding gear, selective type, as used on the Thomas Flyer?—M. R.

All selective gears are similar, differing principally in the matter of non-essentials. Nearly any issue of Motor Age of the past few weeks has contained something on this topic in the descriptions of new models of cars. It is assumed the reader knows the principle of the progressive type of speed change gear, in which the moving gear slides on the squared shaft from

one gear on the countershaft to another and which in going from the extreme gears must come in and out of mesh with the intermediate gears. In the selective gear, where there are three forward speeds and a reverse, there are two moving members on the squared shaft and consequently two yokes. By a series of levers the side hand lever is made to connect with any one of the levers connecting the sliding gear and when engaged with one it is out of engagement with the others. The gears are operated so that each engages with a certain gear on the countershaft only and never passes through another gear. A good illustration of the selective gearset of the Shoemaker car was printed in Motor Age in the issue of August 27.

ANALYSIS FOR CAST IRON

Chicago, Ill.—Editor Motor Age—Please give me the analysis of the best grade of cast iron for motor car cylinders, water-cooled, and also the analysis for aluminum alloy for the crankcase.—T. J. P.

Motor Age is unable to name the best of the many possible cast iron mixtures for motor car cylinders. Perhaps some of its readers can answer. For aluminum crankcases and gearcases the following are two mixtures much used: First—Aluminum, 83 per cent; zinc, 15 per cent; copper, 2 per cent. Second—Aluminum, 92 per cent; copper 8 per cent; nickel, a trace. The first of these mixtures has a higher tensile strength, but is more brittle than the second. The melting is done in contact with manganese.

CORRESPONDENCE SCHOOLS

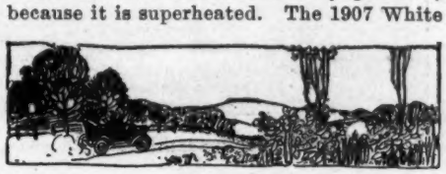
Portland, Me.—Editor Motor Age—I have been a subscriber to Motor Age for about 6 months and have Brookes' Automobile Hand Book, but desire to learn more in this line. Will you kindly give me a list of schools that teach by correspondence?—M. G. Gay.

Correspondence School of Motor Practice, Tarrytown, N. Y.; International School of Correspondence, Scranton, Pa.

TEMPERATURE IN CYLINDERS

Chicago, Ill.—Editor Motor Age—Please tell me what temperature the White steamer gets in its cylinders using steam at 600 pounds and 1,000 pounds pressure. Also can you tell me what the temperature is in the cylinders of a 20-horsepower or a 60-horsepower gasoline motor?—F. E. Stowell.

The temperature of the steam of the White car is not determined by pressure, because it is superheated. The 1907 White



cars run with about 600 pounds normal pressure and the thermostat is adjusted to cut off at 400 to 425 degrees Centigrade, or approximately 750 to 795 degrees Fahrenheit. This represents about 260 to 305 degrees Fahrenheit of superheat. The temperature of dry but not superheated steam at 1,000 pounds pressure is 548 degrees Fahrenheit. The amount of superheat which one would add for such an excessive pressure would of course be quite arbitrary, and probably not enough to bring the temperature above 800 degrees. The maximum temperature reached in the cylinder of any gasoline engine is approximately 3,000 degrees Fahrenheit. The size of the cylinder exercises only a slight influence on the temperature.

PITTSBURG CLUB NOT PROMOTER

Pittsburg, Pa.—Editor Motor Age—I notice in the issue of Motor Age of September 26 a complaint from Mr. Christie regarding his treatment in Pittsburg and making the statement that the race meet in which he was injured was held under the auspices of the Automobile Club of Pittsburg. This statement is not correct. The club had no connection whatever with the meet in question and is strongly opposed to racing on circular tracks not especially constructed for this purpose. Before the sanction was granted to Oldfield for this meet the A. A. A. was notified that the Pittsburg club had nothing whatever to do with it.—Paul C. Wolff.

PRONUNCIATION

Bellevue, O.—Editor Motor Age—Please tell through the Readers' Clearing House how to pronounce the following words and put the accent to them and divide the syllables: Chauffeur, magneto, Gabriel. About how many subscribers has Motor Age and how long has the publication been in existence.—Otto C. Poths.

Chauf-feur; pronounced sho-fer, with no accent. Mag-net-o; pronounced as indicated, and not mag-nee-to, as commonly. Ga-bri-el; pronunced Ga-bre-el. Motor Age has 11,159 paid subscribers, while an average of 2,000 papers are sold on the news stands.

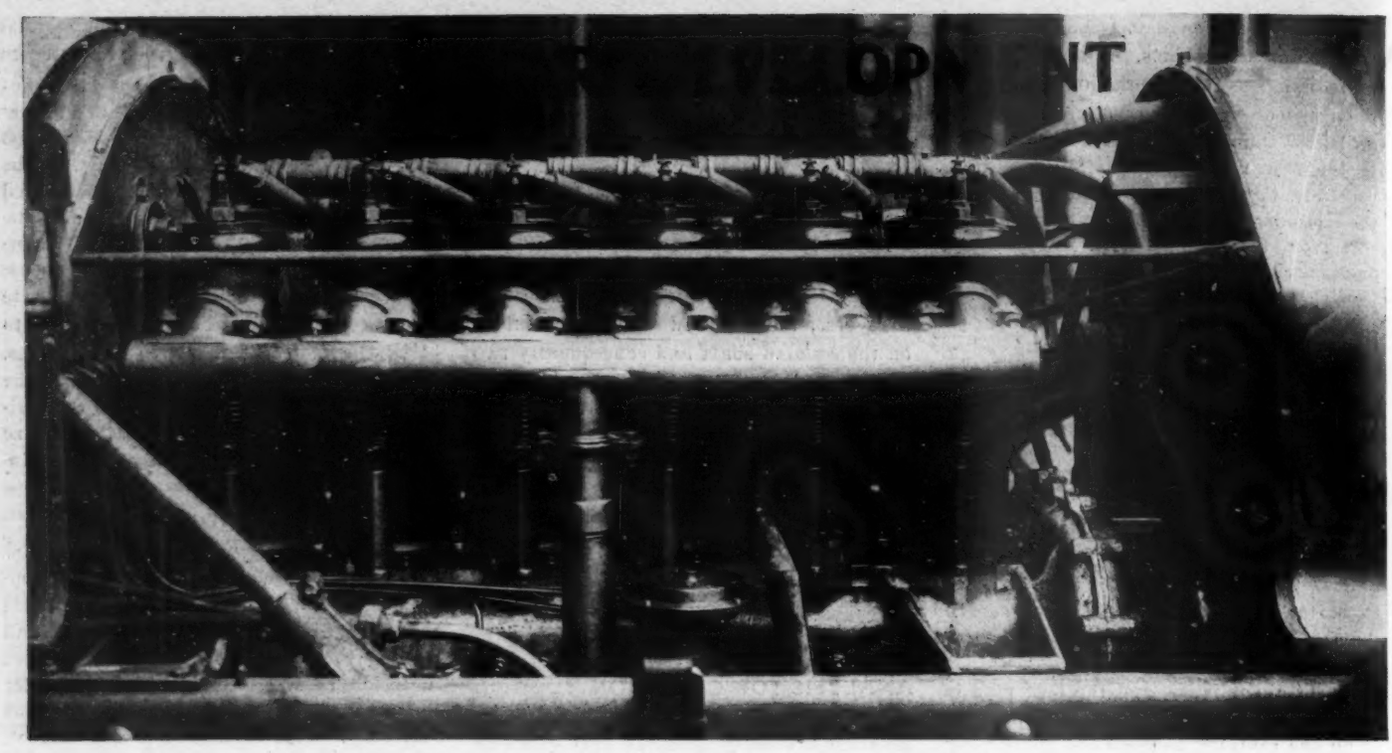
HAS PNEUMATIC HUB

Washington, D. C.—Editor Motor Age—Replying to inquiry of B. E. D., Dixon, Ill., for high wheels fitted with cushion tires, permit me to say that we are prepared to furnish wheels of any size up to 38 inches and believe our pneumatic hub wheel is the thing he is looking for—A. H. Collins, 1330 New York avenue, Washington, D. C.

TWO-CYCLE RUNABOUTS

Cincinnati, O.—Editor Motor Age—I will appreciate information concerning name of manufacturers making a two-cylinder two-cycle runabout.—William P. Rendigs.

The Knox Motor Truck Co., Springfield, Mass., makes the Atlas runabout, which has two-cycle two-cylinder motor.

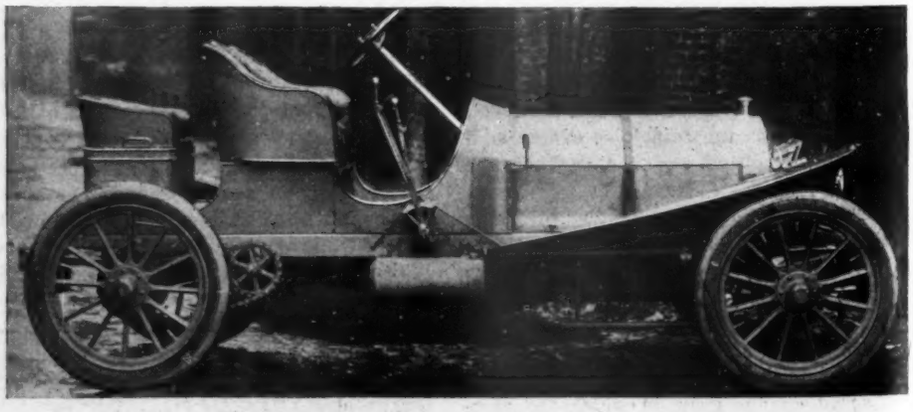


INTAKE SIDE OF APPERSON SIX-CYLINDER, 55-HORSEPOWER, 1908 MOTOR

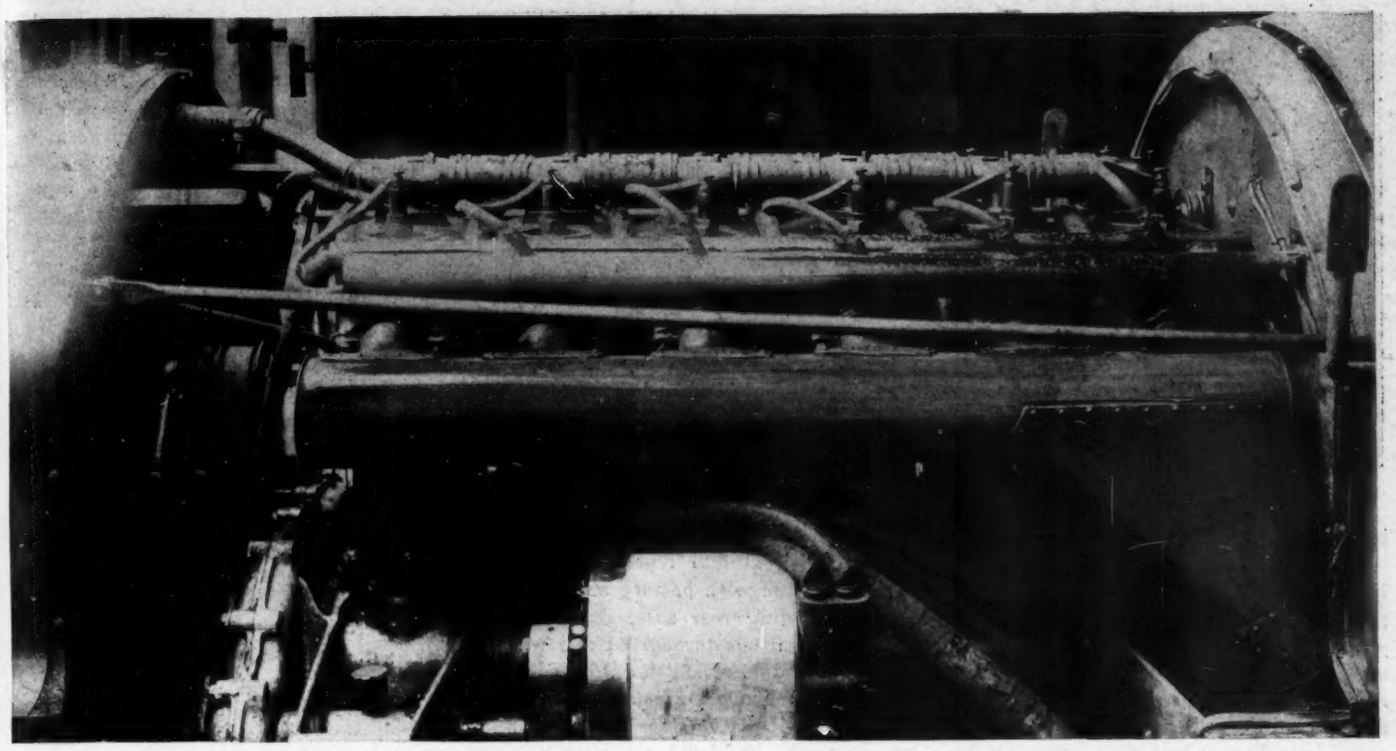
AMONG the 1908 crop of six-cylinder machines must be counted the Apperson, which is now participating in its preliminary road test. During a rainy-day pause in this test while at the Chicago agency Motor Age was privileged to get views showing the right and left side of the motor as well as a broadside of the car. Before entering into detail on the motor a comparison of the six-cylinder roadster illustrated on this page and the four-cylinder roadster shown on the following page is invited in order to compare the relative lengths of the bonnets or hoods on the two machines. A glance is sufficient to prove that the six-cylinder looks like a four-cylinder outfit; in fact, there is not any perceptible difference in the lengths of the two hoods as viewed in the photographic reproductions. By actual measurements the six-cylinder car measures 4⅜ inches more from the front of the dash to the rear of the radiator than does the four. In making this comparison it must be borne in mind that the six-cylinder is rated at 55-horsepower and has six separately-cast cylinders, having a bore of 4½ inches and a stroke of 5 inches. In the four-cylinder motor the four separately-cast cylinders have a bore of 5½ inches and a stroke of 5 inches, and is rated at 55-horsepower. So nearly of a size are the six and the four that the six has less than 1 cubic inch more piston displacement than the four.

How the designer, Edgar Apperson, of the Apperson Brothers' Automobile Co., Kokomo, Ind., has managed to get six cylinders into such a small space is partly answered by the right and left views of the motor, in which the observer is first of all impressed with the compactness of the cylinder arrangement in which but ⅛-inch space separates the adjacent cylinder castings. In securing this close array the sides of the waterjacket on each cylinder are cut away and a metal plate fitted, a bit of construction used on the 1907 55-horsepower engines. Casting cylinders with openings left in the jacket walls facilitates getting the core sand out and also result in a lighter casting.

Although the use of six cylinders marks the greatest difference in this car as compared with previous Apperson productions, yet the motor contains a few other features new in this make of cars. To begin: The crankcase is designed to contain both camshafts. Heretofore the Apperson crankcase did not contain the camshafts, but they lay along the top side of the case and had the bearings and cams encased in covers that rested over openings in the crankcase. These openings were of sufficient size to allow the splash lubrication from the crankcase, sufficing for the cams and the camshaft bearings. Still another change is the mounting of the commutator on the top of a vertical shaft rising between the second and third cylinders on the intake side, carrying the commutator casing slightly higher than the level of the cylinder heads. Previously this important factor of the electrical equipment was located on the reverse side of the dash in plain view of the driver and driven by chain from one of the camshafts. In the illustration the commutator does not appear in its new position, but is located on the forward end of the exhaust camshaft, or close in rear of the radiator. This position is a makeshift on the first car, as on it the battery system is the only one coupled up. The water pump gear is carried on the forward end of the intake camshaft. As in the company's other motors the water supply enters the waterjacket slightly to the right of the center and exits from the head a little to the left of the center line. This permits of the intake and return water pipes lying side by side over the cylinder heads, and



REMARKABLY SHORT BONNET ON APPERSON SIX-CYLINDER CAR

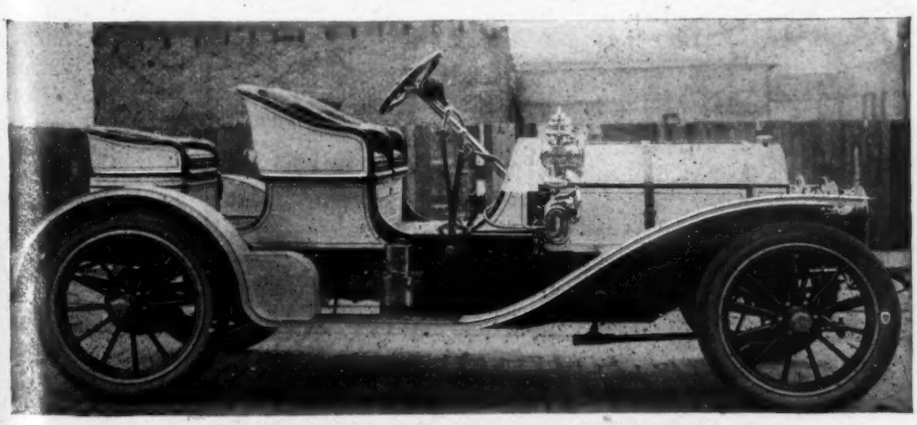


EXHAUST SIDE OF APPERSON SIX-CYLINDER MOTOR, SHOWING LARGE EXHAUST PIPE

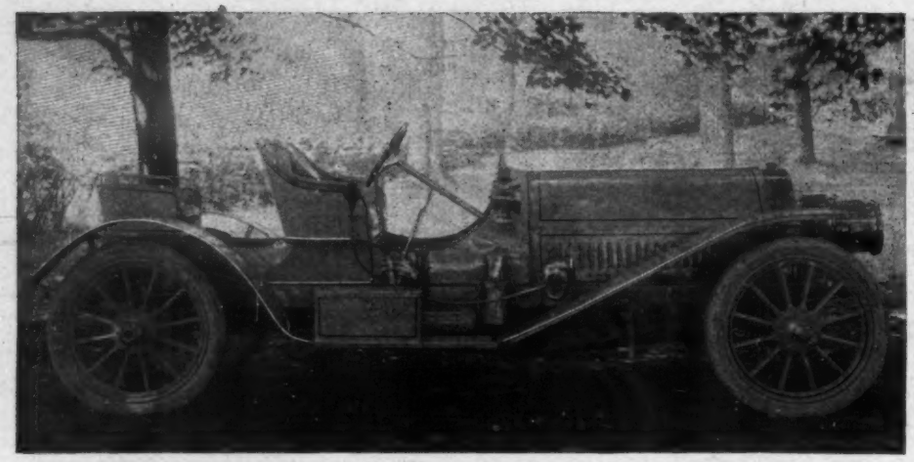
herein exists another makeshift in that short hose lengths are used to connect these pipes between the cylinders. Associated with the water cooling is a belt-driven fan closely housed in rear of the radiator and supported thereon.

What probably will astonish the student of six-cylinder design as much as anything is the intake manifold, which is a uniform-diameter horizontal tubing lying close to the lower corner of the valve chambers, with a right-angled branch to each cylinder and a right-angled tubular connection with the carbureter. Up to the present all makers of sixes have deemed it imperative to design some abnormal pipe system in the hope of giving each cylinder its due quota of mixture, but in this particular department of six-cylinder manufacture Designer Apperson has not altered his intake system as used for seasons on four-cylinder cars, except in changing the pipe diameter. Within the intake pipe there are not any partitions, divisions, perforated baffle plates or other cerebral conceptions to interfere with the mixture flow—just a plain pipe. In every case the proof of the pudding is in the eating and the company's testers declare they get better results from this simple piping than from much more complex systems that they have tried. In size the pipe is perhaps of slightly smaller diameter than used on the 55-horsepower four-cylinder cars. The pipe for the six was designed to give the same ratio per single cylinder capacity as in the four and as the cylinder in the four is larger than in the six the pipe for the six was made slightly less in diameter. Careful experiments have been conducted to ascertain the quantity of mixture delivered to each of the six cylinders under all conditions and according to factory reports the simple piping fed the cylinders so that no missing occurred under anything like normal working conditions. The carbureter is the same as used on the four-cylinder machines. Incidentally the order of firing may have something to do with the results attained. It is: One, four, six, two, three, five. Firing in this order means starting impulses at one end of the crankshaft, and going to the other end firing one, four and six, after which the impulses start again at the first end and travel over the same course, firing the second, third and fifth cylinders. The crankshaft has its end throws set in the same plane, or, in other words, set "together," as are the middle cylinders and as are the second and fifth. Each of these pairs is mounted at 120 degrees to the remaining pairs. In pursuance of the Apperson policy a bearing is used between each adjacent two cylinders, making in all seven plain bearings for the crankshaft. The interior cylinder finish is the same as used for several years.

On the exhaust side the first object to attract is the exceptionally large-diameter exhaust manifold, carried well up on the valve chambers so as to leave ample room for the magneto as well as giving access to the valves. Immediately above the manifold and paralleling it are two conduits for containing the wires of the electric system. Intake and exhaust valves are made interchangeable and are of the flat-seated type used on these cars for several years and introduced this season on some of the other leading American cars. As heretofore, the principle of overlapping valves is maintained—that is, there is a period in the cycle of each cylinder when the intake and exhaust valves are open at the same time. Besides this feature of valve action, the valves are made with a large diameter and have a good lift. Lubrication is by the standard Apperson method of mechanical oiler, with leads to the several crankcase parts for furnishing a splash that cares for all the interior bear-



THE APPERSON FOUR-CYLINDER CAR—COMPARE ITS RADIATOR LENGTH WITH THE SIX



SIDE VIEW OF SPEEDWELL SIX-CYLINDER ROADSTER

ings surfaces of the motor thoroughly.

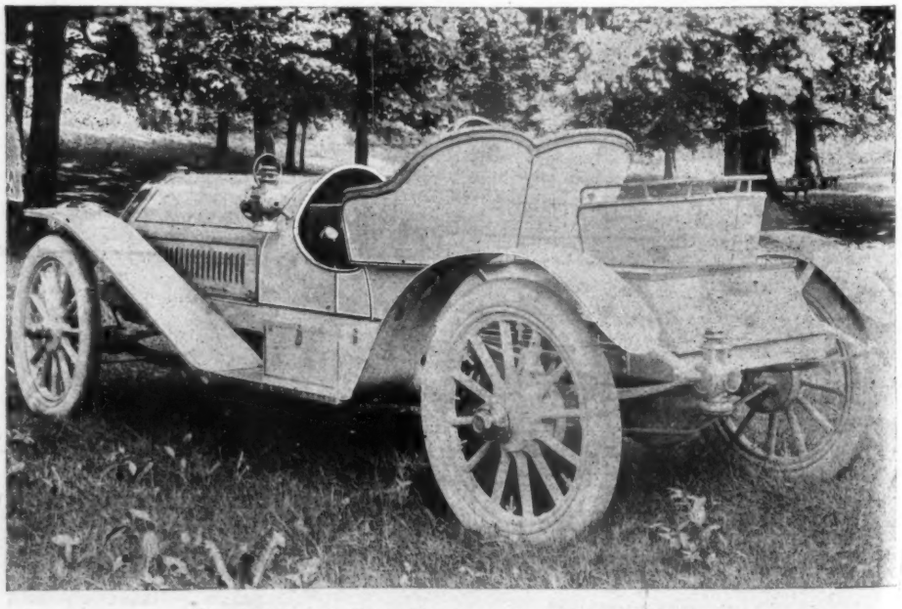
Apart from the motor the Apperson six is a conventional machine, fashioned along those lines pursued by the company for years. In the flywheel is the band clutch with its metal-engaging surfaces; in the rear of it comes a selective gearset with four forward speeds and having the differential gear housed in a rear extension, together with the inner ends of the jackshaft. Drive to the rear wheels is by side chain. In the gearset both shafts are carried on annual ball bearings and the four road wheels are carried on New Departure ball bearings, in which there is a double race of balls in each bearing. Arrangements are included, however, for those desiring it, for removing the New Departure bearing races and substituting either Hess-Brights or the F & S bearing. When either of the latter is used a collar is fitted to the side of the ball races, as they are narrower than in the New Departure bearing. Brakes are carried on the jackshaft and rear wheels. Supporting the entire mechanism is a chrome nickel frame construction which is in turn mounted on a set of four vanadium steel semi-elliptic springs. The axles are I-beam forgings. When fitted as a three-passenger roadster the wheelbase is limited to 108 inches and wheels are 34 inches in diameter and fitted all around with 4-inch Diamond tires; but when marketed as a light five-passenger touring car the wheelbase is extended to 116 inches and 36-inch wheels are fitted in front and rear, carrying respectively 4 and 4½-inch tires.

Regarding the other Apperson cars for 1908, announcement of which will be made in these columns later, the greatest innovation will be the introduction of a medium-priced car styled model M and rated at 30-35 horsepower. Constituting this new model, which has been on the roads for months, is a four-cylinder motor with cylinders cast in pairs, with mechanical valves on opposite sides; 4¾ and 5-inch bore and stroke; selective gearset with three forward variations, and shaftdrive instead of chain, which the company has used since its inception. The car has a 106½-inch wheelbase, 34 by 4 inch tires, internal and external rear wheel brakes, double ignition with battery and magneto current, floating rear axle, I-beam front axle, ball bearings throughout and weighs 2,400 pounds. In addition to this new model the company will continue the manufacture of its 50-55-horsepower Jackrabbit, its model K 50-55-horsepower touring car, and will supply special orders on its 96-horsepower four-cylinder racing car, which has four separately-cast cylinders with 6¼-inch bore and 5½-inch stroke. This car has double chain drive, double ignition, 110-inch wheelbase, selective gearset and three external metal brakes.

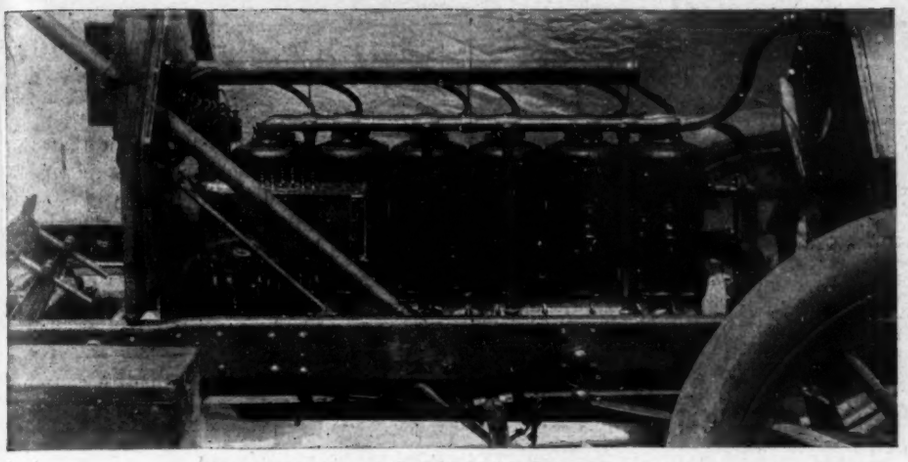
SPEEDWELL SIX A NEW ONE

There is undergoing test in Dayton, O., the first car of a six-cylinder type that promises to take a position and become a factor in the motor game in the course of a year or so. This car, the Speedwell, is manufactured by the Speedwell Motor Car Co., Dayton, O., which concern was started early last spring and is now located in the southeast part of the city close to the tracks of the New York Central lines and on a large tract of land. The factory facilities are at present limited and because of which many parts of the car and of those now coming through were manufactured outside and the factory work confined largely to assembling and finishing of parts. The first Speedwell six, as illustrated on these pages, is a 60-horsepower machine, of the shaft-driven class and throughout shows present-day constructions. In brief it has a Rutenber motor, cone clutch, floating rear axle, selective gearset, rear hub internal and external brakes, 132-inch wheelbase and three-seated body. The body lines are rakish. It is not difficult to recognize it as a six-cylinder product and the long wheelbase gives good opoprtunity for foot room for the driver and his associate as well as affording more than the ordinary foot room for the rear-seat passenger. The body sits exceptionally low, due partly to the use of elliptic rear springs.

The Rutenber motor as fitted is made with 4½ by 5-inch cylinders, cast separately and having integral waterjackets as well as valve chambers on the left side. This style is the same as used for several seasons. As with many other makers using this motor, a subframe is required to take the motor and also the selective gearset. Intake and exhaust valves are made interchangeable and are opened from the cams on one camshaft placed in the top part of the crankcase at the left. The intake and exhaust manifolds are compactly arranged, the intake closer to the cylinders than the exhaust and held in position by the same yokes. Intake and return water flows are through pipes lying along the cylinder heads, the water circulation throughout the jacket being insured by the presence of partitions in the jackets compelling the flow throughout the jacket space. The water pump is carried on the forward end of the cam-



THREE-QUARTER REAR VIEW OF SPEEDWELL ROADSTER



OILER LOCATION OF SIX-CYLINDER SPEEDWELL CAR

shaft and is of the gear type. Assisting the radiator in its cooling mission is a four-blade fan driven by belt from a pulley on the crankshaft. The commutator is in rear of the sixth cylinder, or in other words between the sixth cylinder and the dash, and is on the top of a vertical shaft which is bevel-driven off the camshaft. Placing the commutator casing on a level with the cylinder heads increases its accessibility and shortens the wiring. Ignition is by jump spark with current drawn from a storage cell with dry cells held in reserve. The six-unit coil of the electric system is located on the rear side of the dash. Spark as well as throttle control is from a stationary semi-circle on the steering wheel. Lubrication is entrusted to a multi-feed lubricator carried on the engine base at the left rear and positively driven. Oil tubes connect with the important motor bearings and the cylinders, and internal lubrication is assisted by the oil splash in the crankcase. Carburation is entrusted to a standard carbureter of the float-feed type with automatic auxiliary supply. The gasoline tank is under the seat.

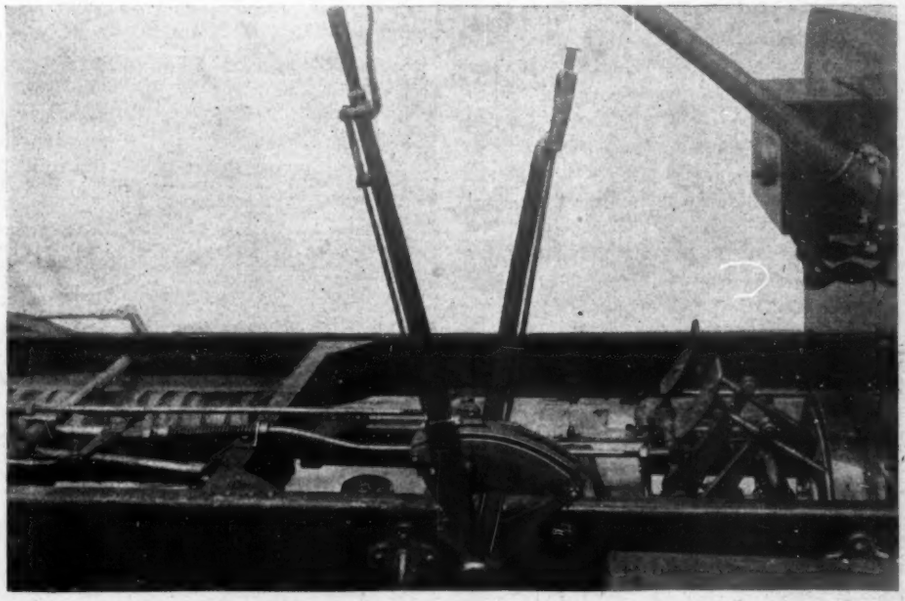
In the transmission department of the Speedwell six the leather-faced cone clutch is made with approximately a 12-degree face. By interconnecting with the throttle the motor is so controlled that withdrawing the clutch decreases the motor speed. Carried closely in the rear of the clutch is the gearset which offers three forward variations with the usual reverse, all speeds being obtained by one side lever working in a one-slot quadrant. On the lever top is a button which when pressed partly down takes up an arm that has linkages with one gear-shifting lever, giving two speeds. When pressed completely down it takes up another shifting lever giving two other speeds. When in neutral the lever stands vertically and none of the speeds can be taken up without first using the press button. Enclosing the gears is a one-piece aluminum casting with end openings through which the shafts are inserted and in which the bearings for carrying the shafts are held. Access to the gears is through a large inspection plate forming a cover to the entire set. This cover plate is secured by thumb nuts. Connection with the floating rear axle is through a cardanshaft with front and rear universal joints. Assisting the rear axle in its propelling force is a pair of torsion rods, one at either side of the cardanshafts. Both of these torsion rods are of elongated V-shape with the apex supported in a spring suspension from a cross piece of the frame and the two free ends pivoted to the differential case, one above and the other below the axle plane. In connection with the rear axle construction must be noted the use of elliptic springs seated on saddles, rotably carried on the axle casting and supporting the frame side pieces through large metal hangers riveted to the frame and resting upon the top center of the springs. Each spring is held to the hanger by two clips. On the rear wheel hubs are the usual set of four brakes, two internal members, two clamping bands, one set applied by pedal the other by lever and both with the movable friction surfaces faced with camel's hair. Both sets are applied through equalizers. The frame is a pressed steel construction, narrowed at the dash to increase the turning angle. The front axle is a dropped I-beam construction with jaw endings of the Elliott type for receiving the hub part of the steering knuckles. The tie rod for the steering gear is in rear of the front axle, and the steering column is well sloped to accommodate it to the low driver's seat.

MOTOR CAR LITERATURE

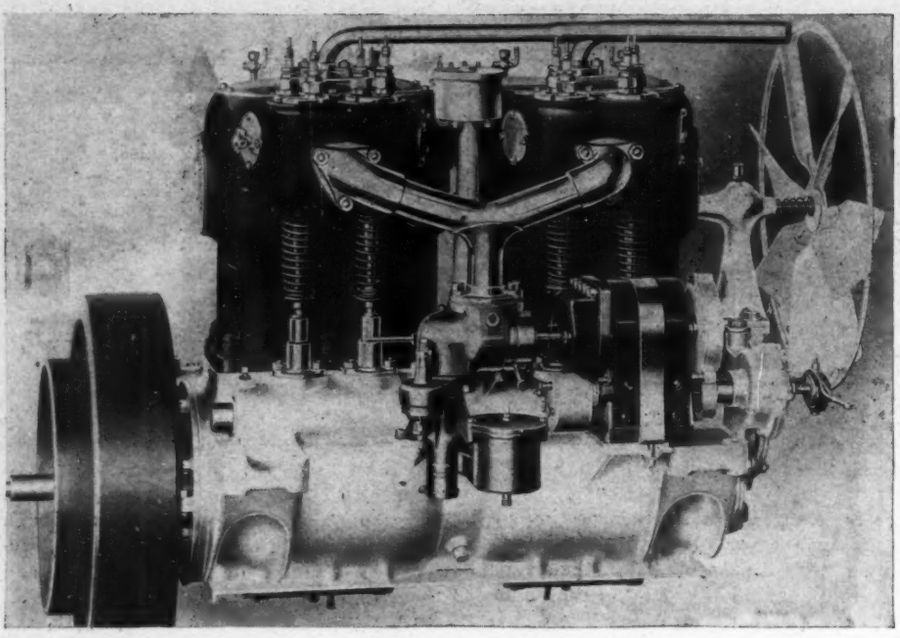
The Studebaker garage, South Bend, Ind., is mailing to factories, dealers and owners a route book covering the course from South Bend to Chicago and return. The course mapped and detailed is by way of New Carlisle, Rolling Prairie and thence to Michigan City. From Michigan City to Chicago the course goes through Otis, Burdick, Chesterton, Christman, Hobart, Highlands, Oak Glen, Dolton and into Chicago by way of Halsted street. The Michigan City detour is taken because of the bad roads through La Porte and Valparaiso, and instead of entering Chicago by way of Hammond and South Chicago, over miserable streets, the Halsted route is outlined. The distance each way is 113.4 miles. All parties desiring a free copy of the book, which is a linen-covered, pocket-size, twelve-page volume, can secure it by communicating with Motor Age or writing direct to the Studebaker garage, South Bend, Ind.

A new catalogue on the Warner Autometer contains many illustrations of the Warner instrument showing how it is tested, its magnetic principle, its interior construction, the sapphire jewel bearings in it, and several factory views. The book is instructive from start to end.

The Lozier company is distributing a preliminary announcement of its new cars in which is given an excellent description of the machines.



GEAR AND BRAKE LEVERS ON SPEEDWELL SIX-CYLINDER CAR



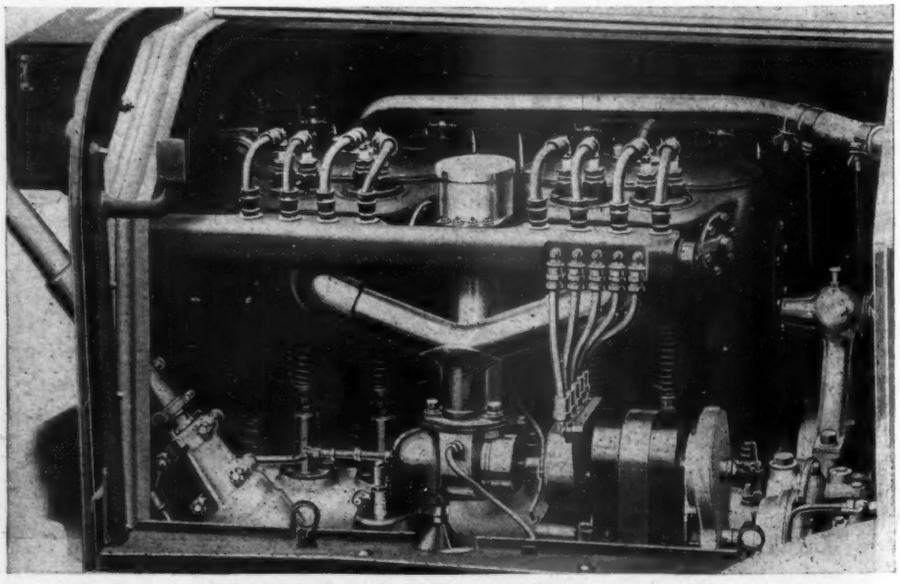
THE 1908 PEERLESS MOTOR HAS GEAR-DRIVEN FAN

NEW PEERLESS CARS

THIRTY-SIX-INCH road wheels in place of 34-inch ones, a double ignition scheme consisting of an Eisemann low-tension magneto and storage cell; copper instead of aluminum plates forming the waterjacket heads for each cylinder pair; replacing the belt-driven fan of 1907 with a combination gear and friction style; improving the exhaust manifold by making it in two parts united by a threaded union so that the part for the second cylinder pair is of much greater diameter than that for the first cylinder pair; using the dropped frame on all models, carrying the gearset as usual from three points and generally improving the method of meshing the reverse gear are the leading improvements made in the Peerless cars for the approaching season as exemplified by model 18, the successor to the present model 16.

The use of 36-inch wheels, double ignition and dropped frames is in keeping with next year's tendencies. The Peerless company was the first American builder to drop the side pieces of the frame from 2 to 2½ inches in front of the rear axle so as to lower the center of gravity of the car. Thirty-six-inch wheels have been used for several seasons on many large cars and have been coming into popularity for three seasons. The use of double ignition is a matter of 3 years' history and although the Peerless cars of '07 were not regularly fitted with a magneto, provision was made for the attachment of one. The other changes—those of the fan, gearset, cylinder jacket heads and other divers alterations—are in the cause of refinement, indicating an evolution of the principles that have been the guiding beacons of Designer Schmidt for several seasons. Added to these already mentioned are the changes in the body lines, the rear fenders now sitting into the tonneau sides, the scroll effect around the front lower corner of the tonneau doors is wanting and the small step for the entrance to the tonneau, which was carried on the running boards of this year's car is discontinued. Other alterations may be noted.

In the consideration of these minor alterations the reader has only to reflect for a moment before recollecting many Peerless ideas that have been popular for several seasons and still are very much in evidence. The rear axle is still manufactured with its central arch so that the back road wheels have the same dish as the front ones and in each of the driveshafts in this axle is a universal joint, one to the right and the other to the left of the differential gears and enclosed in an extension of the case. Cylinders still are cast in pairs with the valves on opposite sides but the company is introducing flat-seated valves in this motor. The majority of the valves used on American cars are of the bevel-seated type in that the valve seat is coned to an angle of 45 degrees. Abroad the Mercedes cars have been the leading exponents of flat-seated valves and during the many forward steps in motor construction these pioneer German builders have clung tenaciously to the flat-seated construction. One or two American builders have used this type of valve but the masses have kept clear of it because of the more accurate and careful workmanship needed and the greater possibility of the valve not always seating properly. The cone or bevel-seated valve will seat better with the stem slightly out of line than will the flat-seated type which must have its stem vertical in order that the valve shall seat perfectly throughout its circumference. A flat-seated valve gives a bigger opening for a given diameter than does a bevel-seated make. Also retained in the new Peerless is the one-piece crankcase with its end openings for taking plates to carry the crankshaft and camshaft bearings. It has a pair of floor inspection holes for furnishing access to the connecting rods of each cylinder pair. The carbureter of this season is continued, the radiator is enlarged and the expanding clutch in the flywheel is retained. Attention is directed to the fact that a selective gearset, offering four forward speed variations with direct drive on the fourth, is again used. In rear is the platform spring suspension associated with Peerless cars for years but the company asserts that its 1908 springs are superior to those of other seasons in the quality of metal used in them. This metal is designated silico-manganese steel and is made at the Lemoine factory in France. With the exception of the motorshafts and front wheels, the car is a ball-bearing vehicle, imported an-



NEAT WIRING SYSTEM FOR DUAL IGNITION ON PEERLESS CARS

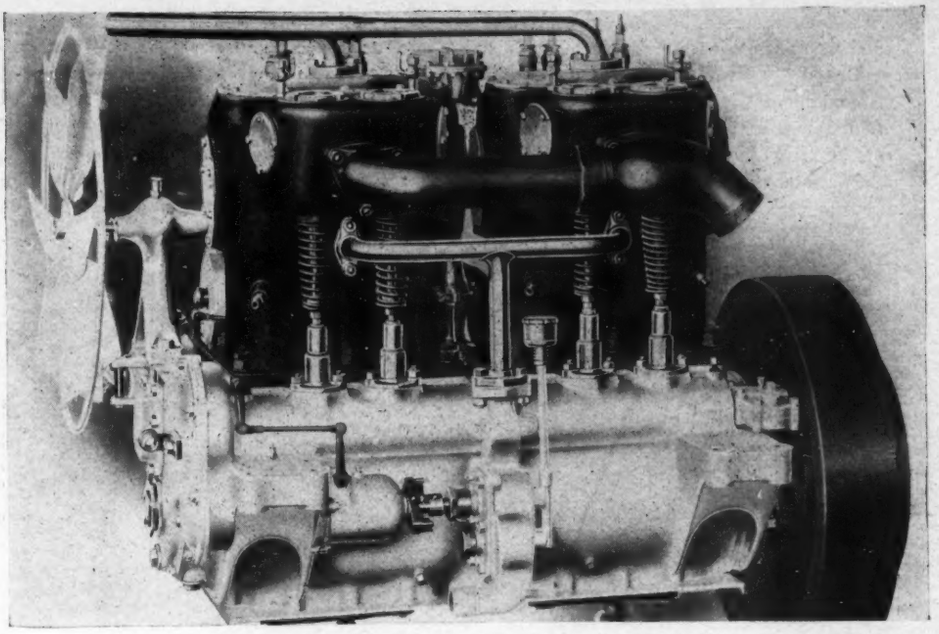
HAVE FEW CHANGES

nular bearings supporting all shafts in the gearset and rear axle construction and Timken roller bearings carrying the front road wheels.

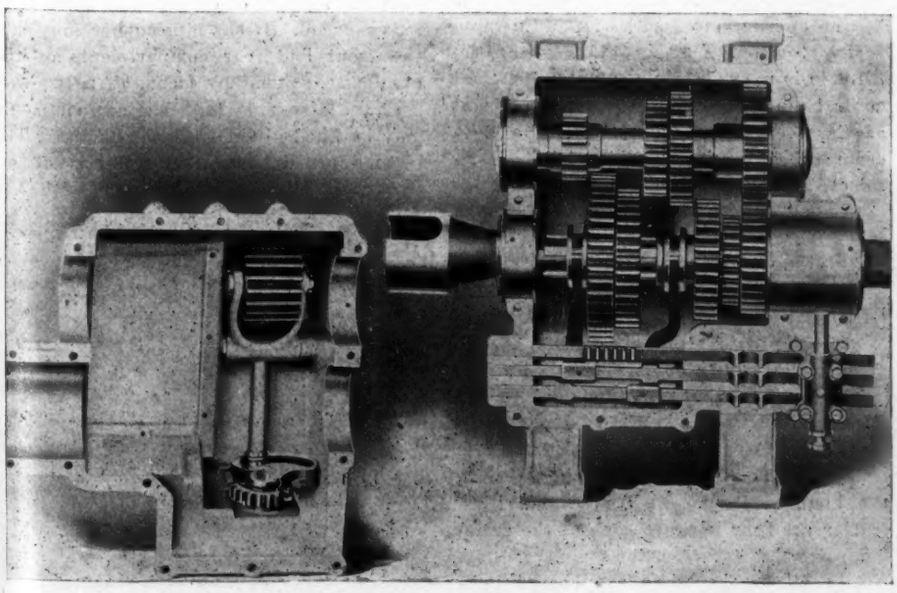
Having thus minutely dwelt upon the innovations in the new Peerless and mentioned those designs that are continued, it will suffice to say that in addition to this model 18 car the company is building two other models. Of these the first is a 45-horsepower four-cylinder machine known as model 15 which is identical with the model 15 1907 car except that the road wheels are increased in diameter from 34 to 36 inches. It has cylinders with 5½-inch bore and 5¾-inch stroke, the road wheels 36 inches and the body altered slightly. The wheelbase is 119 inches. The other model and one of prime importance is No. 20, a six-cylinder machine rated at 57-horsepower. This model has been on the road for several months but its official announcement is being withheld until the first of the new year. It appears that this six-cylinder creation has cylinders with 4⅞-inch bore and 5⅝-inch stroke, that its wheelbase measures 133 inches, that wheels are regularly 36 inches in diameter and that like all of the other 1908 models it has a double ignition outfit.

In dealing specifically with the model 18, from which all the accompanying illustrations are taken, it is well to remember that it comes as the natural successor of the present model 16 car and has a rating of 30 horsepower, the same as used this year on the 16. But although its nominal rating is the same, its cylinder bore is ¼-inch greater than the 16, the measurements of the 18 being 4⅞ inches bore and 5½ inches stroke. The cylinders on this car are the same size as those on the six-cylinder machine. While a natural successor to the 16 the model 18 follows its general lines of design but with many parts larger, the wheelbase for example being 118, inches or 9 inches in advance. Besides casting the cylinders in pairs and retaining the valve chambers practically as they were, care has been taken in getting good cylinder castings and in this quest the making of the cylinder casting without a waterjacket head facilitates matters considerably. The water pipes for the return flow to the radiator have connections with the centers of the copper head plates. In passing it is well to note that for 1908 a one-piece return pipe to the radiator with a uniting branch from the front cylinder pair, is used in place of a hose connection between the cylinder pairs. The improved return water pipe is a conventional member with its diameter largely increased where the branch from the front cylinder pair unites with it. The general aspect of the cylinder castings has been altered by cutting away the waterjacket walls at the front and rear of each cylinder pair, as well as the front and rear corners of each valve chamber, plates being fitted over these openings. This cutting away undoubtedly has been done to facilitate the removal of the core sand from the casting as well as to aid in the inspection of the metal. In attaching the intake and exhaust manifolds, it will be remembered that in the '07 motors the manifolds carried oval-shaped end flanges for resting against the valve chambers and that a pair of studs held each branch of the manifold in place. In the new designs each manifold branch ends with a triangular flange. Three studs are used for the attachment of each. In other respects the intake manifold remains identical but the exhaust is altered; in fact, is different from anything else on the market. It is of the Fiat style—a horizontal pipe on a level with the valve chambers with a branch from each cylinder casting. The change consists in making it in two parts, a front part extending from the front cylinder pair to the rear pair where it threads into the end of an enlarged part coupled to the rear cylinder pair. This enlarged part is curved downward in front of the dash. The enlargement for the rear cylinder pair is in keeping with present-day tendencies.

Cylinders are given the usual waterjacket tests and receive an interior finish by first boring, then reaming, finally grinding and lapping out with a special polishing preparation, the lapping taking place when the pistons and piston rings are in position. In making the crankcase in one piece instead of two or three, the claims of additional strength and non-leakage of oil are advanced. The two floor or bottom holes for giving access to the connecting rod bearings are supplied with cover plates

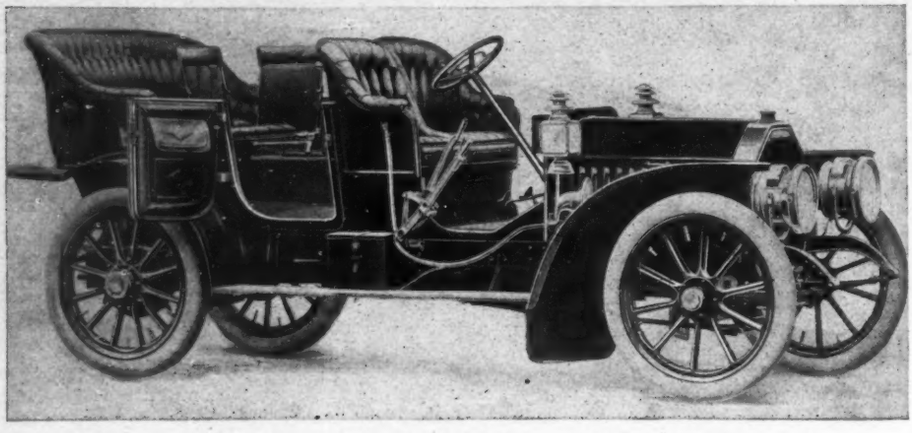


NEW VARIABLE-SIZE EXHAUST MANIFOLD ON PEERLESS CARS



PEERLESS GEARSET SHOWING REVERSE CLASH GEAR IN COVER

with deep recesses or grooves into which the dirt and sediment from the oil are deposited. By the removal of a plug from either end of the groove the sediment and all dirty oil may be drained off. In doing this it is not necessary to remove the sod pan or mud apron of the motor. In making the crankcase integral arms are cast



SEVEN-PASSENGER '08 PEERLESS CAR WITH 36-INCH WHEELS

on each side for taking its support on the side pieces of the car frame. On the forward end is a chamber for containing the half-time gears, the pump, magneto and fan gears. On the top of the case at either side is a horizontal cylindrical expansion for containing the camshaft.

Internally, all other parts of the motor are carefully made. The crankshaft is a three-bearing drop forging, specially treated, hardened and ground to size and the front bearing has a stuffing box to prevent the leakage of oil. The crankshaft in its process of finish is first balanced by itself, then balanced in connection with the flywheel and finally the pistons, connecting rods, piston rings and wristpins of each motor are finished to exact uniform weights in order to have all of the motor reciprocating parts balanced, the aim being the reduction of vibration and the diminution of running wear. Intake and exhaust valves are made interchangeable and are forged from alloy steel as used for two seasons. The heads and stems are formed integrally. Valve lifters work in long bearings carried on the top of the crankcase, each held thereon by a pair of studs. The intake and exhaust springs are made very long, extending more than half way from the bottom of the valve chamber to the top of the crankcase and the entire length of the valve stem. On the tops of the lifter rods are nuts and lock nuts to give any required valve adjustment.

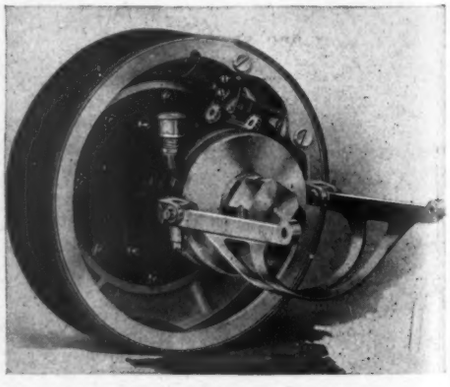
Looking at the right and left sides of the motor the reader will observe first of all the general accessibility of parts. On the left are the water pump, water intake piping and exhaust manifold. The pump, carried well down on the crankcase midway of the supporting arms, is so low as to allow its intake pipe from the base of the radiator to pass beneath the front motor arm. From the top of the pump a T piping connects with the waterjackets beneath the exhaust valves. A compression grease cup is fitted to the pump, it having a branch to each of the shafts of the gear pump. With the arrangement all four valve springs are accessible and the hot exhaust manifold is sufficiently high to be out of the way. On the right side all of the valves are not so accessible, particularly those on the front cylinder pair, as the Eisemann magneto, carried opposite these valve stems on the motor base, obstructs the access. The valve springs on the rear cylinder pair are not obstructed in the slightest.

Centrally located on this side is the carbureter, in design much the same as this year. Its float chamber is seen at the lower right, its normal air entrance at the bottom center, its auxiliary air entrance angling out in the left foreground and its sliding barrel throttle occupying a horizontal cylindrical chamber, with the intake manifold exiting from its top. The carbureter is of Peerless construction and besides the points mentioned carries a waterjacket and has a starting valve —a shutter at the bottom of the normal air inlet for shutting the air almost off when cranking. Its auxiliary air valve is an automatic one with an adjustable spring tension. As in other years the throttle is under a triple control, a manual control on the steering wheel, a pedal accelerator in the footboard and a governor; the last being claimed to act so smoothly that its action practically escapes notice as it maintains a desired motor speed irrespective of the load carried. Incidentally, it is interesting to note that the Peerless is one of the very few makers that continue to use the governor, the Locomobile cars also being users of the governor on the throttle.

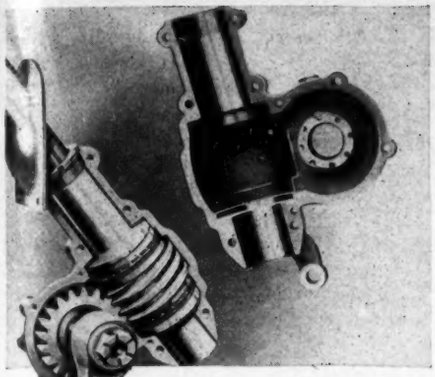
No greater tribute can be paid to the dual ignition system in vogue on model 18 than the illustration of it showing the left side of the motor fitted in the car and with the bonnet raised. Visible in this illustration are four wires to each of the cylinder pairs and five from the magneto. Practically all of the wires are housed in a large tube hugging the left side of the valve chambers above the intake pipe. The five wires from the magneto enter this pipe at the front and from it the two wires to each cylinder emerge. The center of the tube passes close to the side of the commutator used in the battery circuit and the wiring for it is housed in the tube which extends rearward to the dash so none of the wires from the commutator to the coil, carried on the reverse side of the dash, can be seen. All wires are connected with their terminals by a spring attachment, eliminating the use of thumb nuts and allowing of the instant detaching of all wires and the complete removal of the magneto in less than 5 minutes. The Peerless dual ignition system consists of two distinct and independent systems with separate sets of spark plugs, both carried in the intake valve caps. By two independent systems is meant that the magneto is a unit in itself. It is of the low-tension type and may be removed, leaving the storage cell, dash coil and commutator a complete system intact. Should the battery with its commutator and coil be removed the magneto remains a perfect unit.

The Peerless commutator remains unchanged in principle, its feature being that when advancing or retarding the spark the commutator casing remains stationary so the wires from it are not molested. To vary the spark with this stationary casing required the making of the commutator-shaft in two parts—a lower and an upper—with the ends of these abutting as when lead pencils are placed end to end. The timing is done by advancing one part of the shaft more or less with reference to the other, which is done by a connecting sleeve with internal thread, that meshes with the threaded ends of the shafts so that by moving the sleeve the required variation is accomplished without molesting the high-tension wires.

Lubrication improvements shown are along the line of simplification and lessening of parts. The oiler is cut down in that the number of oil pipes or leads from it is reduced. It has pipe connections with the front and rear compartments of the crankcase, so that by means of a two-way cock the different crankcase compartments may be filled direct from the oil tank. The pistons are lubricated by means of oil from the oiler which connect with the



PEERLESS EXPANDING CLUTCH



PEERLESS STEERING GEAR

cylinders, the regulation of the flow in these being according to sight feeds on the dash. The crankshaft bearings, wristpin bearings, camshafts, cams and all gears are supplied by the splash in the crankcase, the oil being replenished by the constant flow from the lubricator.

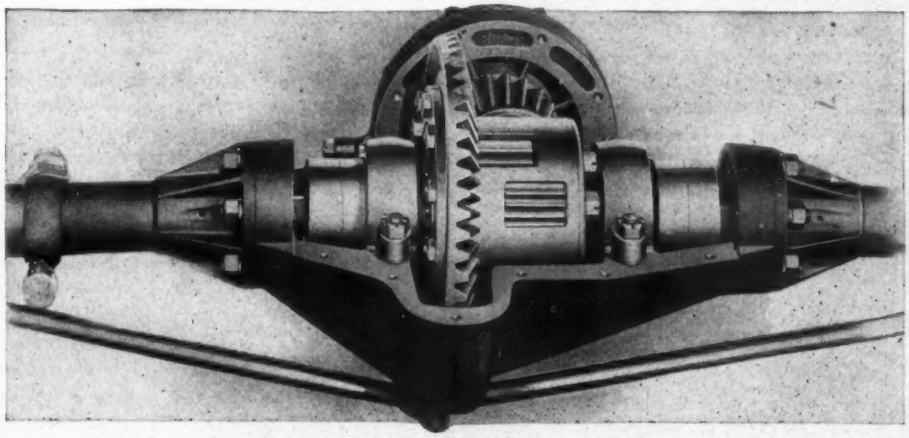
In the cooling features of the motor reference has been made to the gear-driving of the fan instead of driving by means of a flat belt. On the forward end of the crankcase rests a fanshaft casing within which is a vertical shaft gear-driven off the half-time gear. Drive is transferred from this vertical shaft to the fanshaft through bevels but in order to take the sudden starting jerks off the fan a clutch and spring connection is made between the fan hub and its shaft, the spring absorbing the jars. Instead of the four-blade propeller variety the fan is made with six blades, each bent at 45 degrees to the plane of rotation and with the ends of the fan blades reinforced by a metal ring attached to them at their centers. The radiator is set back 5 inches on the frame, placing it over the front axle.

Carried within the motor flywheel is an expanding clutch which operates on the same principle that Designer Schmidt has used for several seasons. In the illustration on this page the reader must not confuse the clutch with what appears to be the flywheel of the motor, for in that illustration only the expanding clutch appears, none of the flywheel being shown. The expanding member is heavily faced with leather, making the contacting surfaces leather and steel. One end of the expanding ring is anchored to the clutch carrier, the other, connected with this carrier through the expander, consisting of a linkage and pinion and bolt, the linkage serving to connect the clutch spring pressure to revolve or partly rotate the gear that causes the bolt to force the loose end of the expanding ring into the flywheel flange. Adjustments for wear are possible by means of a screw driver or pair of pliers and can be made without difficulty. The clutch can be taken out complete without removing the sod pan or disturbing the motor or gearset which easy removal is due to the presence of a shaft with a universal joint at each end between the clutch and gearset. This shaft can be removed bodily.

Looking at the illustration of the selective gearset on a previous page shows the general layout of the set to be much as in 1907, but in the cover part of the illustration appears a change in that the reverse gear is shown carried in the cover. This reverse gear is clashed into engagement instead of slid in. It was clashed into engagement in the present cars, but for next year it is so improved that it is impossible for it to work out of mesh except by the act of the driver. The method of clashing it is simple. The gear is carried in a stirrup pivoted in the gearset cover and the long end of the stirrup works in a crescent-shaped cam in a sector carried in the cover also. The sector meshes with a toothed rack on one of the gearshifter rods located in the main part of the gearset so that by sliding the shifter rod endwise the sector is oscillated. The movement of the cam portion of the sector causes the stirrup rod to teeter, as it were, thus clashing the reverse gear into mesh. The sector being in mesh with the rack on the shifter rod, it is impossible for the gear to unmesh until the shifter rod is moved. Compared with previous gearsets the general outlay of shafts and gears is unchanged except that the arms from the shifting collars to the gearshifter rods are now beneath instead of above the shifter rods and unite with them at the under side. Imported ball bearings carry all of the shafts and these bearings are lubricated from the outside instead of receiving their oil from the supply in the case which might have metal particles sheared from the gear teeth in it. The mainshaft carrying the sliding gears has four keyways instead of a squared surface, the company claiming such to be more advantageous. The gearcase is a two-part aluminum housing with all joints packed to prevent oil leakage.

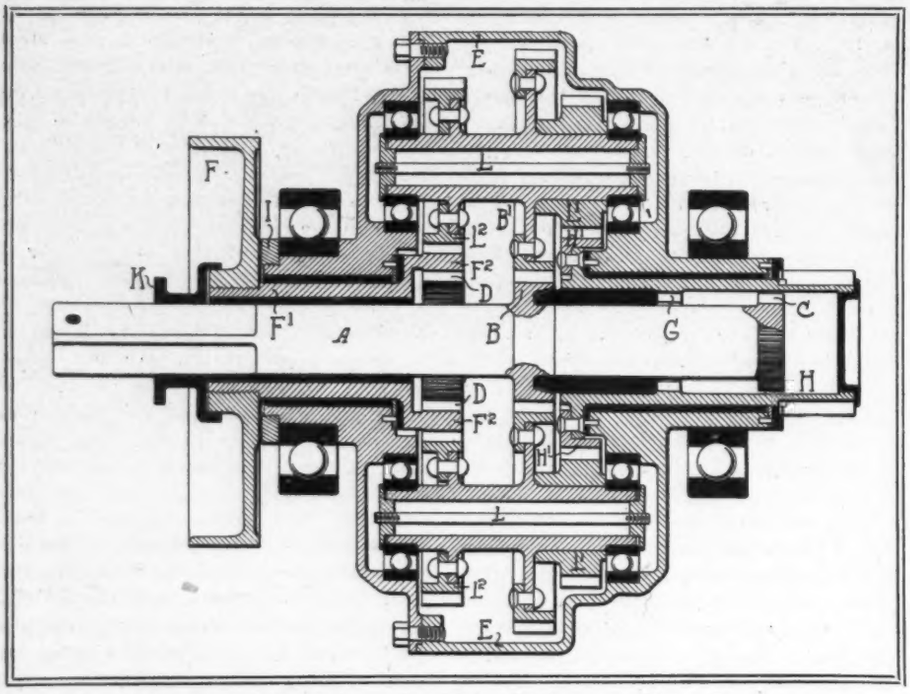
From the gearset power is transmitted to the rear axle by means of a propeller-shaft with universal joints at either end, each joint housed in a dust and weatherproof case and packed in grease. The joints are made without screws or nuts. All driving parts in the rear axle have been increased in size and are made from silico-manganese steel which the company claims is stronger than the alloy steels it has been using in the past in those parts. The axle casing comprises a cast steel differential case with heavy gauge axle sleeves brazed into it and further strengthened by a webbed collar brazed to the tube and bolted to the end of the differential casting. Spring seatings are brazed to the axle tubes. Distance rods from the frame to the rear axle on either side are adjustable by turnbuckle and the car is pushed from the rear axle through these rods and not through the springs. Assisting the cardanshaft is a torsion rod extending from the differential case to a spring bracket attached to a cross member of the frame. The internal construction of the rear axle is conventional. The pinion-shaft is carried on two bearings, one in front of the gear or pinion and the other behind it. The mainbearing, that in front of the gear, is anchored solidly in the differential housing, as shown in the illustration, the bearing race fitting into a circle, the upper half of which is formed integrally with the differential casting instead of being bolted in place. The upper half of the ring containing the rear pinion-shaft bearing is similarly formed. By using the universal joints in the axle driveshafts it is possible to dish the rear wheels 2 degrees, the same as the front wheels. All parts of the axle are carried on imported ball bearings.

The front axle is a one-piece I-beam forging with the steering jaws and spring saddles formed integrally. Steering is by a worm and sector gear. The sector and shaft are made in one piece. The sector being a complete wheel offers three times the wearing surface. The radius arm is held in place on the sectorsshaft by a castellated nut. The frame, made from cold rolled steel, is of the truss design and drops 2½ inches in front of the back axle. Bronze bushings are fitted into all of the spring eyes.



THERE IS A UNIVERSAL JOINT IN EACH HALF OF THE REAR AXLE

DEVELOPMENT BRIEFS



COMBINATION SLIDING AND PLANETARY GEARSET FOR MOTOR CARS

SLIDING-PLANETARY SET

C. R. Radcliffe, 116 Nassau street, New York city, has invented and patented a neat design of gearset for motor cars which gives three forward speeds and a reverse and has the same number of gears in it as used in the ordinary 2-speed and reverse planetary gearset. In this set, which is designated the F. R. V., drive on high speed is direct; on intermediate and slow speeds there is no planetary movement but the same transmission of power as takes place in a sliding gearset when the power is transferred from the clutchshaft to the countershaft and then back to the mainshaft. On the reverse speed there is a planetary movement of gears. The sectional drawing of the set will show its main feature. The shaft A couples with the clutch in the flywheel of the car and the shaft H connects with the cardan shaft to the rear axle. In following the different speeds throughout the reader has to watch how the drive is transferred from the shaft A to the tubular shaft H. On direct drive shaft A is slid forward until the clutch teeth C interlock with internal clutch teeth G carried on the shaft H, at which time shafts A and H are locked together and there is direct drive.

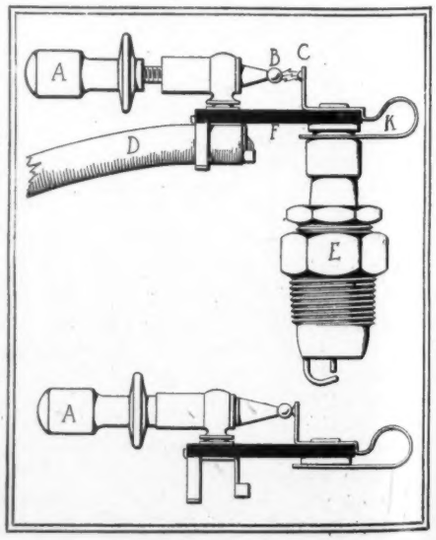
In its present position the gears are arranged for slow speed ahead—gear B integral with the shaft A is in mesh with the gear B1 on the shaft L. This shaft L is carried on ball bearings in the casing E. A friction band surrounds the case E. Tightening this band anchors the case E, preventing it from revolving, at which time the transmission becomes a sliding gearset with A the mainshaft and L the countershaft, the power being taken through gears B and B1 to the shaft L, thence through gears L1 and H1 to the shaft H and to the rear axle.

For reverse speed the same gear arrangement is used excepting that the band operating on the casing E is released and another band tightened on the wheel F, this wheel F being carried on a bushing F1, on which is a gear F2. The gear F2 meshes with the gear L2 on the countershaft L. Clamping the drum F holds the gear F2 rigid, not allowing it to revolve, but as the gear B turns with the shaft A and meshes with gear B1 that causes the gear B1 to travel at a certain rate in a circle around the shaft A, at which time the gear L1 is traveling in the gear H1. But as the diameters of the gears B and B1 are different from L1 and H1, a movement is imparted to the shaft H. For intermediate speed ahead the shaft A is drawn forward until the gear B meshes with the internal gear D carried on the sleeve F1 and so connected with the brake drum F. Holding the case E makes the gear B and F2 practically one just the same as if F2 was a large gear on the shaft A and the power taken into gear L2 to shaft L and thence through gears L1 and H1 to the shaft H. On this speed the action is as in a sliding gearset.

A feature of the gearset is the method of synchronizing the speed of the gears before they are thrown into engagement. The band brake that holds the case E against rotation is interconnected with the clutch pedal so that the first movement of the pedal releases the case E, which begins to revolve, a further movement releases the flywheel clutch and also presses the member K in frictional engagement with wheel F and F into frictional engagement with I. The entire case and all the gears therein immediately assume the speed of the cardan shaft and are driven by the momentum of the car.

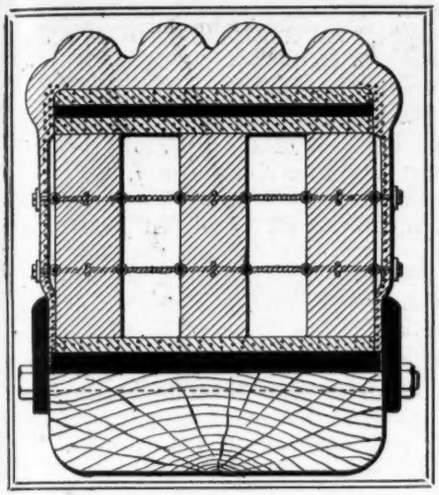
TELLS WHEN THERE IS NO SPARK

The Brandow Combination Lock Switch Co., of Pittsfield, Mass., is making the spark indicator illustrated on this page. The lower portion of the illustration shows the device as it looks when purchased, while the upper part gives an idea of its appearance when it is in place on a spark plug. One device of this character is attached to each spark plug on the motor. In brief, the spark indicator consists in attaching the high-tension wire D not direct to the spark plug E but rather so the current is carried to the point B and has to jump across to the point C and thence to the plug. The zig-zag lines indicate the spark, but when in ordinary use there is no gap between the points B and C, it being possible by means of the handle A to move the point B close against the point C. Should one cylinder in the motor miss firing the value of the indicator appears in that it is only necessary to move the handle A back, drawing the point B away from the point C. If that cylinder is sparking then a spark will jump between the points. Going over all four cylinders in this way, the faulty cylinder will be discovered.



BRANDOW'S SPARK INDICATOR

CURRENT MOTOR CAR PATENTS



McKay's Combination Tire

Hydraulic Clutch—No. 866,926, dated September 24; to A. J. Fippard, London, Eng.—The driving member of this clutch has an annular expansion in which is carried a series of blocks or followers attached to the carrier or driven member of the clutch. The driven member and its cylindrical chamber have a series of recesses into which fit blocks connected with the other member of the clutch. By causing relative movement of the blocks within the recesses a variable resistance is offered to the liquid of the clutch and the relative rotation of one member of the clutch to the other is varied.

Combination Tire—No. 866,874, dated September 24; to J. H. McKay, Los Angeles, Cal.—The tire referred to is a semi-solid in that it has not a pneumatic chamber but has a spring and canvas spring suspension to aid the rubber in gaining resilience. The tread part is a broad corrugated band suported on three series of rubber blocks. Interwoven with these blocks are several wire meshes arranged concentrically. The meshes keep the rubber blocks in position. A band of fabric encircles the series of blocks and around the fabric is a metal ring to which the rubber tread portion is secured. The inner ends of the rubber blocks rest upon a fabric ring. Each of the woven wire rings comprises circular wires with kinks, small twisted wires extending through the rubber blocks and having their ends tied to the circular wires and twisted cross wires, the ends of the cross wires being firmly secured.

Detachable Tire Flange—No. 866,986, dated September 24; to J. K. Turton, New York, N. Y.—The wheel rim for a pneumatic tire referred to in this patent is not of the clincher variety but has a permanent flange on one side and a groove in the rim on the other. Resting in this groove is a spring ring with the ends drawn together by a turnbuckle action so that by tightening the turnbuckle the ring is fitted or drawn tightly into the groove and serves as a flange to hold the tire in place. The turnbuckle action consists in having the opposite ends of the spring ring threaded oppositely. Fitting into these threaded ends is a threaded rod or connecting link. On this rod is a gear and a pinion is in mesh with the gear. The pinionshaft is squared out so that the square end of a bit can be inserted to turn the pinion and by it turn the connecting link so as to draw the ends of the flange together or separate them.

Heat-Insulated Spark Plugs—No. 866,631, dated September 24; to W. Dieble, Philadelphia, Pa.—The plug has a body portion for threading into the cylinder-head and has a shoulder midway of its internal height upon which rests the lower end of the porcelain insulating the center wire of the plug. To protect the lower end of the porcelain from heat and grease or oil, an insulating washer is placed beneath it or between the insulation and the lower open end of the plug, this washer resting upon the plug's shoulder. Instead of having the lower end of the plug body or casing open, exposing the entire inner surface of it to the cylinder chamber, the bottom is closed by a circular plate in the center of which is an opening for the sparking points to protrude.

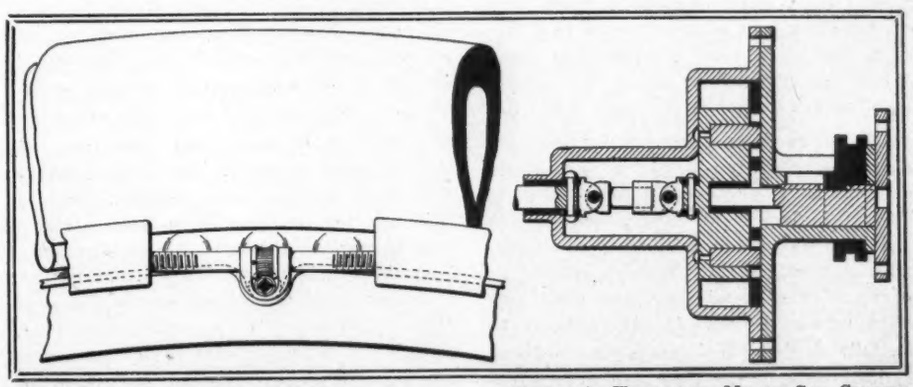
Battery Zinc—No. 866,748, dated September 24; to H. C. Thomson, Boston, Mass.—The zinc for a wet cell has its open edges or lips turned back toward and either touching or almost touching upon the zinc forming the cell.

Roller Drive Chain—No. 866,980, dated September 24; to A. B. Taylor, Indianapolis, Ind.—This chain is composed of successive pairs of links, each pair consisting of two outer and two inner links. The latter are permanently connected at their ends by tubular cross members and the outer links also are connected with tubular cross bars which are within those uniting the inner links. Within the cross tubes or sleeves unting the outer links is what is termed a transversely-removable intermediate compression member which member is always removable at one end without disturbing the links.

Change Speed Gearset—No. 866,908, dated September 24; to C. R. Binney and J. L. Watkins, London, Eng.—In combination in this patent are an arc frame, a driven shaft carried on the frame, an eccentric mounted on the driven shaft, a disk rotably carried on the frame, this disk having a cam groove in one of its faces, a rod on the eccentric with an arm pivoted to the rod and to the frame; and a roller carried by the arm to one side thereof intermediate of its pivots to engage the cam and furnish additional means for rotating the drivingshaft acting in conjunction with the opposite face of the disk.

Acetylene Burner—No. 866,163, dated September 17; to H. E. Shaffer, Rochester, N. Y.—This patent refers to the shape of the slots through which the acetylene gas escapes when burning. The burner has two branching arms for causing a jet issuing from one arm to impinge upon a jet issuing from the other arm. In the upper face of each arm is a channel having an enlargement constituting the bottom thereof, whereby the upper edges of the channel overhang the enlargement.

Spring Rim—No. 866,540, dated September 17; to H. Villiers-Stuart, Louisville, Ky.—In each wheel spoke is a reciprocating piston resting upon a spring which extends in the spoke to the wheel hub. The outer end of the piston hinges to a toothed semi-circle contained in the rim of the wheel and the opposite end of the semi-circle connects by spring with the wheel hub so that as the piston works in or out in the spoke it pulls upon the tension spring in the rim. In addition to this an endless link chain enclosed in the hub is in mesh with each of the semi-circles so that the action of each spoke is transferred to the chain and so the strain on each spoke is equalized.



Turton's Detachable Tire Flange

Fippard's Hydraulic Motor Car Clutch

PRESIDENT ROOSEVELT LEAVES OYSTER BAY IN A WHITE

Motor Writer Weds—James T. Sullivan, motor editor of the Boston Globe, and Boston correspondent of Motor Age, was married last Sunday evening in Boston and is now at the White mountains on a wedding tour.

Another Meet for Louisville—The Louisville Automobile Club has decided to hold another race meet some time in October, the dates of which are as yet to be decided upon. The club has also decided to give the patients of the tuberculosis sanitarium an outing on October 19. This will be an unusual event, but one in which great interest is being displayed.

Marylanders Organize—The Maryland State Automobile Association has been organized. The new association will be a branch of the American Automobile Association. It will comprise the Automobile Club of Maryland, the Automobile Club of Baltimore City, the Baltimore County Motor Club, the Hagerstown Automobile Club, the Alleghany Automobile Club and the Motor Car Racing Association, with a total membership of over 500. The officers elected were: President, Osborne I. Yellott; vice president, H. M. Rowe; secretary, F. M. Darling; treasurer, W. S. Belding. These officers, with W. W. Baldwin, compose the board of directors.

Stunt by Premier Six—George Weidley, of the Premier company, recently performed a stunt that is the talk of Indianapolis. It was on a rainy evening and the Gibson company had received word that one of its cars, a runabout, which was being driven back from Shelbyville, had become stuck in the mire on the only dirt road out of Indianapolis. Another car had been sent to its relief, but it, too, became stuck, so it was necessary to send out a third relief car. Even that capitulated to the mud and the garage man was in a quandary. Whereupon Mr. Weidley offered to go out with a Premier six and tow them all in or else he was to give the six to Mr. Gibson. Mr. Weidley made good and not only brought the cars in, but he came into town with all three hooked onto the six. The last car rescued was in the ditch and for a time it looked as if Mr. Gibson would get a car for nothing, but the six gave an extra tug and the trick was turned by the big Premier.

Gymhkana Postponed—The gymhkana games of the Automobile Club of Hartford, which were to have been held at Charter Oak park on October 19, have been postponed until next spring because the track could not be secured for this fall. The infield, where most of the events would have taken place, has been planted with grass seed. Despite strenuous efforts of the committee to secure some other park, all efforts were fruitless.

To Tour to Duluth—Arrangements have been perfected by the Twin City clubs for a trip to Duluth about October 20. The tour will be made leisurely, permitting those who go to enjoy the full beauty of a Minnesota autumn. Twenty-five entries already have been made. Duluth is a popular Mecca for motor tourists, although the roads leading there are not all that could be desired. The state association has taken the matter up and is raising funds to perfect the highway, the opposition, curiously enough, coming from farmers along the proposed route. They are, however, being shown the advantages and the tide is being turned the other way.

A. M. L. Appointments—President Isaac B. Potter, of the American Motor League, has been busy making appointments of members of the various state boards of officers of the organization he represents. These representatives also will serve as the division organization committee of their respective states. So far nine states have been fixed up in this manner. In Illinois the 102 counties have been divided into seventeen districts; in Michigan fifteen districts have been made of eighty-five counties; there are fifteen districts in Indiana's ninety-two counties; fourteen counties in Massachusetts have been made into seven districts; Iowa has seventeen in ninety-nine; California eleven in fifty-seven; New Jersey seven in twenty-one, while Ohio is well parceled out. Georgia has seven districts in 137 counties.

Challenge by Fiat—The first of the new 50-horsepower Fiat semi-racers has arrived in New York, consigned to E. R. Hollander. Mr. Hollander has issued a challenge to match this car against any car now in this country.

Chicago Meet Postponed—Rain prevented the meet of the Chicago Automobile Club at Harlem last Saturday, and a postponement of 1 week was necessary. The club has retained its original program and expects to hold its meet Saturday afternoon. Since the postponement there have been some additional entries, one of them being Herbert Lytle in a 20-horsepower Pope-Toledo, in the hour race.

New Bay State Club—The Pittsfield Automobile Club is the latest to be organized in Massachusetts. It was formed a few days ago, when L. R. Speare and J. S. Fortesque, of Boston, went there and completed the arrangements for getting the members together. The Bay state is rapidly outstripping other commonwealths in the number of active motor clubs. The Pittsfield club will elect officers and have a banquet in a few weeks.

Can't Insure Against Accidents—Attorney General Marcus H. Holcomb, of Connecticut, after reading the brief submitted by representatives of the insurance company located in New Jersey which desired the Connecticut insurance commissioner to allow the company to insure motor cars against accidents, has decided not to reverse his decision denying the request of the company. This decision is in keeping with the action of insurance commissioners in the states of New York and Massachusetts.

After Car Thieves—Owing to the large number of thefts of cars that have been committed in the Twin Cities of late, the Minneapolis Automobile club has decided to prosecute every one caught taking a car, whether in fun or for the purpose of realizing on the theft. In order to catch these thieves the club has engaged permanently the service of a detective, who will be on hand at the clubrooms all the time and will go out on a chase after lost cars at a moment's notice. The chief of police has promised to co-operate.

President Takes a Ride—By conveying to the train on September 25 President Roosevelt, Mrs. Roosevelt and their son Quentin, the government White steamers ended their work at Oyster Bay for the season, and they will now be sent on to Washington. The departure of the president and his family from the summer capital is one of the events of the year at Oyster Bay. The whole township suspends work and gathers at the depot to bid farewell to their distinguished neighbor. In other years the president was driven down from Sagamore Hill in the

family carriage, but he has taken such a liking to motor cars that he preferred to make the journey to the station in a steamer rather than in his carriage.

Issues Road Maps—The Minnesota State Automobile Association has just issued a touring book, compiled by George H. Daggett, chairman of the tours committee. The book gives elaborate details as to the various routes radiating from the Twin Cities. Twenty maps locate the main highways and crossroads.

Speed No Object—The proposed 24-hour reliability contest of the New Jersey Automobile and Motor Club, to be run over a New Jersey course on election day, will attract a great deal of attention, as it will be the first contest of the sort ever run. The legal speed will be maintained—19 miles an hour—in this twice around the clock contest.

Settles Hartford Ties—Doubtless the Automobile Club of Hartford is convinced that sometimes at least the best way is the easiest way—that is to say, it has awarded a gold medal to each of the four cars which tied scores in the recent hill-climb. This move is rather significant, as it was deemed best in certain circles to have the cars fight it out, but then the club is a respecter of established law and therefore adopted the course outlined above in settling the ties.

Stirred to Activity—The Automobile Club of Maryland has taken steps to make its meetings more interesting in the future. It has started a 60-day campaign to increase the present membership of 250 to 500. A committee is making efforts to secure for the members a reduction of price for tires and other accessories. The semi-monthly meetings will be made more interesting by having someone of prominence to make addresses on questions of motor laws, plans for good roads and technical mechanism of cars. A place also will be selected in the downtown section of the city, where the members may assemble for lunch and devise schemes that will be of benefit to motoring.

Tie Remains a Tie—The sixteen owners who made perfect scores in the Hagerman reliability motor car tour in St. Louis decided to let the cup remain in charge of the St. Louis Automobile Club until next fall, when it will be competed for again. Mr. Hagerman has decided to engrave the names of all sixteen who made perfect scores on the trophy, and if any one of the sixteen should win it next year it will become his property. The conditions governing the competition for the cup provide that it must be won by the same party twice before it passes from competition. Next year a more difficult course will be mapped out. There was some talk of having another trial for the cup this fall, but with sixteen cars starting Messrs. Hagerman, Little and Britton decided it would be hardly worth while, as at least ten probably would run another tie. A hill-climb also was suggested to settle the tie, but objection was urged against this plan, and after giving the matter thorough consideration all hands agreed that it would be best to let the competition go over until next fall.

PREMIER SIX-CYLINDER TOWING THREE CARS RESCUED FROM MUD

Minnesota's Strength—In 1 year the number of cars in Minnesota, using the assessment rolls as the basis of information, has increased from 1,573 to 2,215, and their value from $697,708 to $1,009,735. The average value per machine is $455 for 1907, against $443 for last year.

Butler Motorphobistic—"Stay away from Butler." This is the stern edict that has gone forth among motorists all over Pennsylvania and Ohio. Reason—an unreasonable and unreasoning crusade by the Butler police against motorists. Pittsburg concerns have taken the initiative against the Butler crusade by posting placards all over the principal drives to that town and in their garages in this city. The Willets-McIntyre company, which is building a $10,000 plant in Butler, threatens to move from the town with its business if the embargo is not lifted and the jolly-faced Bonifaces of the thriving oil town are wearing an unusually sad look as the result of the placards.

Loses His License—Despite a hard fight State Senator James P. McNichol, of Philadelphia, has been separated from his New Jersey license. Arrested at Elwood on August 24 and fined $13.50, he later appealed and won out on a technicality, whereupon Motor Vehicle Commissioner Smith ordered the senator to show cause why his license and that of his chauffeur should not be revoked. Neither the senator nor his counsel appeared at Trenton when ordered, and McNichol and his chauffeur became persona non grata in the Garden State. Later the senator's counsel endeavored to have his client's rights restored, but Commissioner Smith, after a thorough rehash of the testimony, upheld the Elwood magistrate. The senator's punishment, it is believed, was inflicted because of his manner in the matter at issue, and to show the world at large that no man, even though he be boss of his own city and state, can go careering over the roads of New Jersey and come off scathless.

Tincher, Not a Jackson—Through a mixup of caption lines in the last issue of Motor Age the type labeled a Tincher car a Jackson. This occurred in the story of the Milwaukee 24-hour race. The Tincher was not a contestant in that event, but in the sprints before and after the 24 made a most favorable showing.

Work for Macadam Road—Franklin and Oil City motorists are uniting in an effort to secure a good macadam road between the two towns which are two of the most important touring points in western Pennsylvania. With this connecting link the great oil country of northern Pennsylvania will be in close touch with Pittsburg and its motorists.

Interprets Illinois Law—Two opinions interpreting section 7 of the motor vehicle law passed by the last general assembly have been rendered by Attorney General Stead of Illinois. This section relates to transfer of the ownership of a registered car. The act requires a $2 registration fee. Secretary of State Rose wished to know whether the person who sells a registered machine is required to pay the regular license fee of $2 in addition to 50 cents required to register the car under the original license number. The attorney general expressed the opinion that the seller may exercise such right without payment of a fee of $2. It would be necessary, of course, for the purchaser of a registered machine to make application and pay the fee for an original registration and license. In another opinion the attorney general interprets the law as providing that the seller of a registered car may relinquish his rights to register another vehicle owned by him and have the original registration number assigned thereto by the secretary of state.

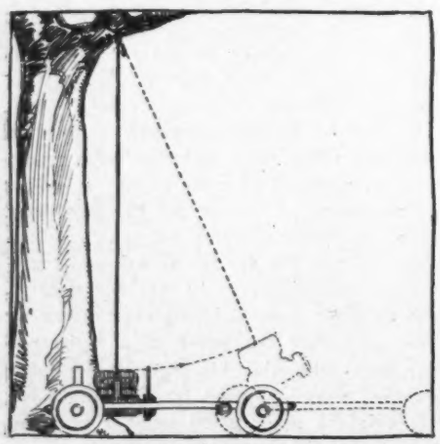
MOTOR CAR SHOP KINKS

LIFTING OUT A MOTOR

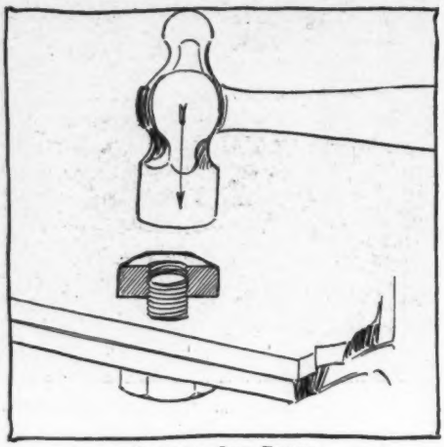
A good example of the ingenuity that is more often born of the lack of facilities than of repair shop necessity is sketched herewith. The problem in this case is to lift a 400-pound motor out of the car which had to be dismantled a good many miles from the nearest block and tackle. The engine was first freed of all piping, wiring, etc., and unbolted from the frame, and then, as shown in the illustration, one end of a rope was tied about it, the other end being given a couple of turns around the horizontal limb of a tree directely overhead. All slack being taken out of the rope, one man maintained a slight tension on its free end, meanwhile keeping one hand on the motor to prevent its bumping around as it came loose, while another pushed the car back—down a moderate gradient. Naturally, as the rope swung out of the vertical, the engine had to lift until it was free of the frame, and, after a few rather violent but harmless oscillations in free air, it came to rest, depending pendulum-wise from the tree. Easing up gradually on the other end of the rope, its weight brought it to the ground, ready for further dismemberment and overhauling.

DRIVING OUT BOLTS

A matter that is perhaps responsible for as much motor car deterioration as any other one thing, in the hands of the average user, is the necessity for sometimes removing bolts that are rusted or otherwise firmly stuck in their places. The usual recourse in a case of this sort, after less brutal methods have proved inadequate, is hammering on the point, with the result that the threads are so battered that a new bolt must be had, or else painstaking filing is necessary to repair the threads—usually by weakening them—so that the nut will go on. Of course the proper thing to have done was to have used a copper or babbitt hammer, but these are commoner in shop than in tool kits, so even the competent mechanic, under the stress of roadside necessity, is apt to be trapped occasionally into the use of means that would not be defensible were better facilities at hand. A mitigation of the particular evil referred to, usually applicable, is to unscrew the nut until it is slightly over the end of the bolt. Then, by pounding on the nut, a better surface is available to withstand the blows. Moreover, if serious battering ensue, new nuts are less expensive and easier to obtain than new bolts, since the size range in them involves only different diameters, whereas the size range in bolts embraces an extensive variety of combinations in which both length and diameter have to figure. Best of all, though, if the threads in the nut are injured, is the fact that, the nut being already partly on the bolt, it is necessary only to force it clear on to clean up the injured threads almost as well as could be done by the use of a tap.



LIFTING OUT A MOTOR



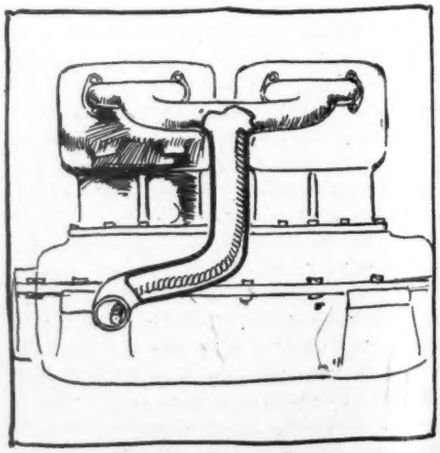
DRIVING OUT BOLTS

REDUCING INTAKE PIPES

It is not as widely understood, perhaps, as it should be that the closer to the intake valves the carbureter is placed the better its functioning. This is because the contained volume of fuel in a long intake pipe impedes quick throttling by feeding the cylinders momentarily after the throttle is closed, and prevents quick acceleration by its attenuation when the throttle is opened. It also is generally conceded that the larger the intake passages the more freely the fuel will be aspired. But all rules have their exceptions, as was recently discovered by a contributor who writes of his experience in attempting to remodel a car that unquestionably had too small intake piping. This piping was also of too great length—fully 2 feet long—but without correcting this fault the mistake was made of substituting for it a pipe of nearly double the cross section, connected to a proportionately large carbureter. The result was an intake-pipe capacity considerably exceeding a cylinder volume, with such corresponding intensification of the attenuation effect that the carbureter could not be adjusted to work satisfactorily. Subsequently the condition was rectified by casting a new intake manifold that permitted the placing of the carbureter very close to the cylinders, but the expedient employed in the meantime to make things run was even more ingenious. The connections all had been bored out so that the replacement of the old piping was out of the question, but by tying a length of half-inch rope inside the new, as shown in the sketch, its capacity was reduced.

CLOGGED MUFFLERS

About the last thing on the car that is apt to be considered in need of repair is the muffler; yet obstruction of this motor auxiliary with soot and carbon deposits is a more fruitful source of reduced power than is commonly supposed. Moreover, the reduction in power from this cause never being very great, and no other serious difficulty accompanying it, it is exceedingly apt to pass unnoticed. A muffler cutout is a good check on muffler condition, for if the increase in power occasioned by its opening is unduly marked, choking of the muffler passages is clearly indicated. Every so often a muffler should be cleaned—the exact frequency varying with the type of power plant, the carbureter adjustment, the fuel used, etc. Only careful observation of the given car will show how often the cleaning should be done. To clean most mufflers it suffices to remove them from the car and treat only interior portions to a thorough bath of kerosene. This should be given from 12 to 24 hours to soak into all carbon deposits and to permeate every corner of the device, by which time a liberal flushing with gasoline will remove all traces of soot and kerosene together. It is almost unnecessary to say that before the muffler is reconnected and the engine run, all traces of the gasoline must be permitted to evaporate.



REDUCING INTAKE PIPES

LEGAL LIGHTS AND SIDE LIGHTS

AFTER TOLL NUISANCE

There are at the present time spanning the Connecticut river several toll bridges and strenuous efforts were made in the last Connecticut state legislature to abolish structures controlled by private parties. Attorney General Marcus H. Holcomb has therefore petitioned the superior court for the appointment of a committee to appraise the value of bridges at Thompsonville and Enfield and at Windsor Locks and Warehouse Point. This is the initial step to be taken to bring about the desired results in accordance with the act passed in the state assembly. The state will take over the bridges. The petitions are returnable before the superior court the first Tuesday in November next. It is alleged that the Suffield-Thompsonville bridge was owned by a corporation and was created by an act of the legislature, approved in June, 1889, while the Warehouse Point Bridge Co. was incorporated in April, 1882.

NEW ANGLE IN CONNECTICUT

An interesting case is likely to come up in a few days, when in Hartford, Conn., it will be decided who is to pay damage when a horse becomes frightened by a motor car, the driver of which complies with the law and brings his car to a stop, and the frightened animal makes short work of the radiator, fenders and lamps. H. W. Barbour, of Farmington, while driving along the Plainville road at a fair clip, noticed approaching a horse apparently frightened. He immediately stopped his machine, but the animal continued in its course, with the result noted. Mr. Bailey, the owner of the team, threatens to sue Mr. Barbour and the latter intends to make the former pay for the damage sustained by his car. Each side in the case believes it is in the right and there is every promise of there being an interesting fight before the matter is finally settled in the Connecticut state courts.

MUST REGISTER NOW

The Massachusetts highway commission has decided that 2 months is grace enough for those motorists who have not reregistered according to the new law, and now it has sent out warning to the delinquents to the effect that they must pay up or be arrested. The commission has figured out that at least 6,000 owners have not complied with the law, which makes a total of $30,000 that is owed the state. Up to the present time there have been issued 10,665 registers of cars, 221 manufacturers' licenses and 791 motor cycles. The total amount from these is more than $60,000 and the others to be heard from will make a total figure of nearly $100,000. January 1 there will be another sum of similar or larger proportions collected from the motorists. Just how the commission hopes to grab the motorists who have not paid is a problem. It says the numbers will be turned over to the state police. As this force numbers but a dozen or fifteen and has a lot of other work to do all over the state it will have a fine task rounding up 6,000 motorists.

HOOSIERS HAVE NEW SCHEME

Indianapolis police are continuing their crusade against violators of the speed law, but they have been forced to adopt new tactics. For several weeks they used a White steamer to run down scorchers, but found that drivers were becoming familiar with the police car, and drove at slow speed when they were near it. Chief Robert Metzger has now adopted the loafer plan. He has two patrolmen roughly dressed to resemble the commonest kind of loafers, but they are equipped with stop watches. Several squares have been chalked off and the officers time cars between squares, also noticing the registration number on the machines. About twenty arrests have ben made during the last 10 days and as many more are to follow, it is declared by the police.

TYLER STILL FIGHTING

The legal battle between F. J. Tyler, the Boston dealer, and Nantucket island officials, is assuming a serious aspect now. Mr. Tyler has asserted that he is going to establish a bus line on the island next summer to run over the state highway for 8 miles. That will put the livery trust conducted by the Nantucketers out of business. Already the fight has reached the political stage, and candidates for office this fall are being asked by the voters what stand they are going to take on the motor car question.

OBJECTS TO CLOSED ROADS

Arthur Kingsbury, of Northampton, Mass., is going to test the constitutionality of the motor law of that state, which allows towns to close roads to traffic. Mr. Kingsbury had occasion to make a business call on a man at Ashfield. To reach the man's home he was obliged to travel over a posted road, as all three highways leading to the house were closed to motor cars. Mr. Kingsbury had to drive over one of them and he was arrested and fined $10. He has appealed the case and intends to fight it on the grounds that any law that obstructs travel is unconstitutional and should be so declared.

MAKING ROADS SAFE

Through the efforts of the Safe Roads Association of Boston, Charles S. Dewey, of Chicago, has been indicted by the Essex county grand jury for assault. This is the first time where such a thing as an indictment has been found against a motorist on such a charge, and it shows how earnest the association is in its efforts to bring about a reform in the use of motor cars on the highways. Cases have become frequent where a visiting tourist figured in some accident and immediately left, thereby becoming immune from arrest. It will not be so in future. Unless Mr. Dewey voluntarily returns to this state and appears in court the governor will be asked to grant extradition papers. The accident resulting in Mr. Dewey's indictment occurred July 15 last. On that day Ubert K. Pettingill was going from Magnolia station to Magnolia. Mr. Pettingill was passing a carriage when another car came up from behind and struck his machine, throwing him and his driver out. The latter suffered concussion of the brain, and Mr. Pettingill also was severely injured. The car continued along without slacking its speed. Another car came along and it was thought its occupants knew who were in the first machine, but they denied this. So the police gave up the investigation. Then the Safe Roads Association got busy, and from the occupants of the second car got evidence enough to secure an indictment.

PROVED HE WAS ASLEEP

Another Hartford motorist who appealed from the decision of the town court, in which he was fined $50 for speeding his car last June on the return from the Yale-Harvard boat races at New London, has been acquitted. The accused was fined $50, but took an appeal, which was argued at New Haven in the common pleas court, the prosecution contending that Mr. Hooker and a companion were asleep in the car at the time the arrest was made. Walter S. Schutz, of Hartford, who appeared for Mr. Hooker, contended he was not responsible for what his driver was doing, hence the decision and subsequent acquittal of the motorist from Hartford.

CLAIM SPEED IS TOO SLOW

The motorists of Dedham, Mass., have filed a protest with the state highway commission against the low speed regulations on certain streets of that town. The rate on the three streets affected is 10 miles an hour, and as they are not in the thickly settled portion the motorists claim it is too low. The rate on a couple of curves is 6 miles and as there is no obstruction to shut off the view it is claimed to be unreasonable. One hearing has been held, but no decision rendered by the court.

AMONG *the* MAKERS *and* DEALERS

THE WAY SALES MANAGER MCGOOKIN ADVERTISES STEWART SPEEDOMETERS

McCutcheon Vice-President—Charles G. McCutcheon has been elected vice-president of the American Distributing Co. by the officers of that concern.

Handling the Marmon—The Pennsylvania Automobile Co. of Wilkinsburg, Pa., has secured the 1908 agency for the Marmon in that city.

New Minneapolis Concern—The Ranger-Barrett Co. will hereafter be the name of the new concern which has purchased the interests of the W. C. Thornhill garage, 308-310 Tenth street, south, Minneapolis. The company will continue to handle the Frayer-Miller and will add a couple of other makes later on.

Pope Taking an Inventory—The Pope-Toledo works at Toledo have been temporarily shut down while an inventory of the stock and other property is being taken. The closing down necessitated the laying off of a large number of workmen. The work is about completed and assurance is given that all the men will be reinstated in a few days.

Fight for Name Settled—A decision has been filed in the case of the Knox Automobile Co. against the Knox Motor Truck Co. in regard to the use of the word Knox in favor of the former concern. The Knox Motor Truck Co. has been enjoined from further use of the name in its corporate name, in advertising, or on its trucks. The misunderstanding arose from the connection of Henry A. Knox with both concerns.

Dowse Made President—Announcement is made by the G & J Tire Co. of the election as president of the concern of B. C. Dowse, who for several years has been manager of the Chicago branch of the concern. The promotion is declared to be one well earned, Mr. Dowse having been connected with the company since 1899, with the exception of a short period in 1903. He succeeds J. A. Anderson, who held the dual position of president of the G & J Tire Co. and also chief executive of the Hartford Rubber Works Co. Now Mr. Anderson will confine himself to the Hartford company alone, while Mr. Dowse will preside over the affairs of the G & J concern in Indianapolis.

Littell Added—Harry S. Houpt, New York agent for the Thomas cars, has made an addition to his selling staff in the person of Harvey L. Littell.

Receiver for B. L. M.—Advices from New York state that some of the creditors of the B. L. M. Motor Car and Equipment Co., of New York, have asked that the concern be placed in the hands of a receiver, a request which was granted by the court. A meeting of the creditors has been called.

Deal in Lone Star State—Pitts Brothers, late of Roswell, N. M., have secured control of the Pecos Auto Co., of Pecos, Tex., and have moved their shops to the latter place. They also have opened a motor bus line from Pecos to Sanderson, which connects with the Santa Fe and Texas and Pacific railways. Four Acmes are used, running 110 miles on a 6-hour schedule.

Increases Its Capital—The Standard Roller Bearing Co., of Philadelphia, Pa., has increased its capital of $3,500,000 to $5,000,000. Large additions are now being made to the plant and equipment for the purpose of enlarging the department for the manufacture of roller bearings for shafting hangers and also for the establishment of an entirely new department for the manufacture of roller bearings for trolley cars.

Testing Track for Lear—Several of the leading business men of Springfield, O., have become identified with the Oscar Lear Automobile Co., which recently moved its plant there, and ample means and facilities are now available for pushing the manufacture and sale of Frayer-Miller cars. In laying out the half a mile testing track advantage has been taken of a small ridge to provide an 18 per cent grade, while on the other side of the track several stretches of deep sand have been arranged. In addition to the two pleasure models the company will turn out for 1908 a number of trucks and taximeter cabs.

Lewis Changes—F. F. Lewis, who was formerly manager of the Frayer-Miller agency in Boston, has gone over to the Rambler forces in the same city.

Orders Truffault-Hartfords—The Nordyke & Marmon Co., of Indianapolis, has renewed its contract with the manufacturers of the Truffault-Hartford shock absorbers and will equip its cars with the device during 1908. The first order was for eighty sets.

Take the Rainier—Smith Brothers, of Los Angeles, Cal., have been appointed agents for the Rainier for the southern California territory. Contracts were closed last week by Ezra E. Kirk, general western sales manager of the company, while in Los Angeles.

More Warner Branches—On account of its increased business in Michigan and Ohio, the Warner Instrument Co. has found it necessary to open separate branch offices for each state. O. C. Foster has been transferred to Cleveland and will look after the company's business in the Ohio territory, while George G. Weidner will take charge of the Michigan territory, Mr. Weidner retaining the old stand at 260 Jefferson avenue, Detroit, Mich.

From Tires to Trucks—Resigning his position as vice president of the Fisk Rubber Co., Frank C. Riggs last Tuesday became affiliated with the Packard Motor Car Co. as manager of the commercial vehicle and inclosed body departments. This change is taken to mean that the Packard company, after 2 years of careful work along commercial lines, is about to open an active campaign in the production of motor trucks. It is said the first of the business rigs will make their appearance within a few months.

Pittsburg Dealers Busy—The Automobile Dealers' Association has been incorporated from a social club composed of dealers having garages in Pittsburg and the suburban towns. Following are the members of the association: Allegheny Automobile Co., Atlas Automobile Co., Auto Repair Co., Bankers Brothers Co., Bellefield Motor Co., Colonial Automobile Co., Central Automobile Co., East Liberty Automobile Co., Iams Motor Co., Keystone Automobile Co., Liberty Automobile Co., Standard Automobile Co., and Winton Motor Car Co. The meetings will be held on the second floor of the garage of the Standard Automobile Co. These are the officers: President, W. N. Murray; vice-president, W. H. LaFountaine; secretary, A. L. Banker; treasurer, G. P. Moore; assistant secretary, Alice E. Doherty. At the last meeting resolutions of sympathy were passed and forwarded to Mrs. Rex Reinertsen whose husband was killed on the Brunots Island race track at the re-

cent races there. A committee composed of A. L. Banker, G. P. Moore and W. H. LaFountaine was appointed to arrange for a clam bake in October.

York Branch Opened—The York Motor Car Co., of York, Pa., has discontinued its Philadelphia agency and established a branch house in the Quaker city at 205 North Broad street.

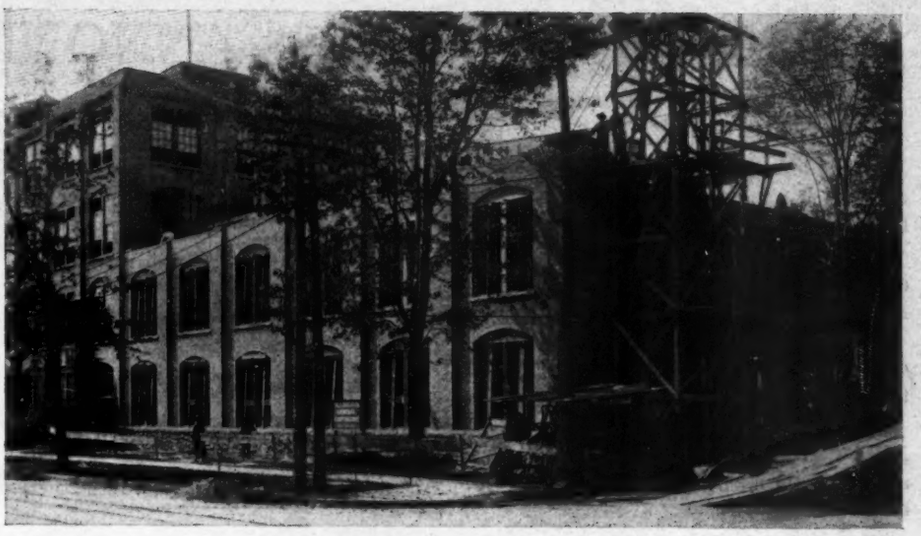
Representing Taxicab Company—E. H. Cox, one of the best known of the pioneer motor salesmen in New York and for several years connected with the De Dietrich Import Co., has been appointed special representative of the New York Taxicab Co. in that city.

Adds to Its Line—The Automobile Sales Corporation, of 1661 Broadway, New York, has taken the agency for Panhard automobile oil, the Comstock shock absorber and the Webster gasoline gauge. This concern also announces that George W. Condon is not connected with that organization in any capacity.

Strengthening Its Forces—The West-Stillman Motor Car Co., of 153 North Broad street, Philadelphia, which handles the Pennsylvania and the Mercedes in the Quaker City, is strengthening its forces preparatory to the opening of the 1908 campaign. It has recently acquired the services of George T. Gould, formerly manager of the Acme branch in New York city.

Also Has the Lozier—The General Motor Car Co., the Philadelphia concern, which recently took over the local branch house of the Autocar Co. along with the agency for the sale of that car, last week filled up its line by acquiring the right to sell the Lozier in the same territory. R. R. Ramey, who has been connected with the Eastern Automobile Co., former local agent for the Lozier, has been secured by the General Motor Car Co. as assistant manager.

New **Franklin Plant**—The new building which is being erected by the H. H. Franklin Mfg. Co., of Syracuse, is nearly completed. There are to be five stories and the addition will be 60 by 100 feet in dimensions. This will make the total length of the plant on Geddes street 346 feet and will mean the employment of 200 more men. When the structure is completed the Franklin company will have 1,800 men at work and this plant will be the largest single industry in Syracuse. The building will be of fireproof, reinforced concrete construction and the lower floor will be used for sundry and machinery stock. The offices will be moved from their present location to the second floor. The other floors will be used for manufacturing purposes. The purchasing department will be located where the offices are now. The building is being put up by W. J. Burns, of Syracuse, after plans of Architect R. J. Reidpath, of Buffalo. The additional space will give the company opportunity to increase its output of commercial cars. The output of pleasure vehicles, it is expected, will be over 2,000 for the coming season.



ADDITION TO THE FRANKLIN PLANT NEARING COMPLETION

Skilton General Manager—Titman, Leeds Co., Philadelphia representatives of the Matheson and Studebaker, have engaged R. J. Skilton as general manager of their establishment at 130 North Broad street.

Reward for Reo Employes—Upon the return from Europe of R. E. Olds, president of the Reo Motor Car Co., Lansing, Mich., and vice chairman of the American Motor Car Manufacturers' Association, the directors voted to give every employe in the Reo factory who had been there a year a bonus of 5 per cent on his salary in recognition of faithful service. This gratuity effected 900 people.

Secures the Pope Agency—A recent addition to Philadelphia's motor trade is the Charles F. Johnson Automobile Co., formed to take over the local agency for the Pope-Toledo car, recently represented by the Quaker City Automobile Co. Pending the securing of a row location, Charles F. Johnson, head of the concern, is carrying on business through the medium of an office at 909 Land Title building, Broad and Chestnut streets.

Auto-Meters for Europe—The Warner Instrument Co. has for a long time cast longing eyes toward the European field. Its capacity has been taxed to the utmost, however, in order to supply the American trade, and for that reason it never tried to interest the foreign market until now, it having contracted with the Electric and Ordnance Accessories Co., of Birmingham, England, on a royalty basis. This company is owned and controlled by Vickers Sons & Maxim, one of the largest manufacturing concerns in England making electrical instruments. It will immediately start the manufacture of the Warner Auto-Meter. The Electric and Ordnance Accessories Co. already had arranged to put a centrifugal instrument on the market, but after seeing the construction of the magnetic indicator, abandoned its previous ideas and plans to take up the manufacture of the Auto-Meter.

Will Handle Puritan Tanks—Puritan gas tanks, made by the Old Colony Light Co., of Boston, will hereafter be represented throughout New York, New Jersey and Connecticut by the Pierson Motor Supply Co., of New York and Brooklyn.

Chicago Change—William G. Isbell, who has been representing the American Simplex in Chicago, has decided to open up in Detroit, where he will represent the Mishawaka product. The Chicago agency will be taken up by the American Simplex Co., of Illinois, a newly formed concern.

Exploits Stewart Speedometers—Unique in the way of advertising schemes is the idea adopted by Sales Manager McGookin, of the Stewart & Clark Mfg. Co., who has had fitted to the top of the bonnet of his Marion roadster a neat sign reading "Stewart Speedometers," much like the tags on demonstrating cars, only in a more conspicuous position.

After the Popular Driver—The Banker Brothers Co. of Pittsburg is getting ready to have a voting contest to decide who is the most popular motor car driver in Pittsburg. The terms of the contest have not been announced yet but A. L. Banker declares it will not be an advertising scheme wholly but will be of intense interest to the 12,000 or more drivers in the city.

Unique Rambler Test—Believing comparison with a car of known qualities to be the only way of judging a new one, two expert testers from the Rambler factory are now touring the sand roads and hills of Wisconsin and northern Illinois making such a test. The cars used are a 1907 40-horsepower Rambler and a 1908 model rated at 32 horsepower. In order to stimulate the efforts of the drivers, a substantial prize has been offered for the winning man in the greatest number of tests and the operators change cars each morning.

BRIEF BUSINESS ANNOUNCEMENTS

Cleveland, O.—The Metropolitan Motor Car Co. has taken the agency for the Pierce and Stearns.

New York—The Franklin Automobile Co. has leased the premises at 211 West Eighty-seventh street.

Hartford, Wis.—The Kissel Motor Car Co. is making preparations for the erection of a new three-story building.

Chicago—The Sheridan garage, of 3096 North Clark street, has been sold to P. W. and J. C. Herman, of 2044 Evanston avenue, of this city.

New York—The Automobile Insurance Co. has taken a lease of offices in the new building at 229-231 West Forty-second street.

Jefferson City, Mo.—The Fletcher Cowherd, Jr., Automobile Co., of Kansas City, has been incorporated with a capital stock of $10,000.

Allegheny, Pa.—Plans have been prepared for the erection of a new garage for the Diamond Auto Co., to be built on North Diamond street.

New York—E. H. Cox, who has been connected with the de Dietrich company, has been appointed representative for the New York Taxicab Co.

Providence, R. I.—The Snow Automobile Co., the agent for the Stevens-Duryea, is now installed in the new garage at 27 Washington street.

Cincinnati, O.—Coldeway & Duebel have leased quarters at 808-810 Elm street and will open a garage as soon as the necessary alterations are completed. The concern is the agent for the Frayer-Miller car, and also makes a specialty of handling trucks.

Wooster, O.—The Sigler garage has been sold to the Wooster Brush Works, and will be occupied by the latter concern as soon as the machinery can be installed. Mr. Sigler still has the agencies for the Jackson and Cadillac, but will dispose of them as soon as he can make the necessary arrangements.

Philadelphia, Pa.—Thornton & Fuller, who represent the Isotta and Panhard cars in Philadelphia, have made arrangements to handle the Simplex in the Quaker City. This concern has also recently acquired the right to sell the product of J. M. Quinby & Co., makers of bodies, in the same territory.

Des Moines, Ia.—After November 1 the Goodwin Automobile Co. will revert to the Buck Automobile and Cash Implement Co. After the change Mr. Jungjoham will be the manager of the business, and the Royal Tourist the Peerless and other cars will be represented. The garage of the Goodwin company will be completely remodeled, a new repair shop will be built and an entire new stock of supplies, tires and other sundries will be carried.

New York—The Maxwell-Briscoe company has taken a lease of the old quarters of the Broadway Auto Exchange at 245-247 West Forty-seventh street.

Providence, R. I.—The garage and repair shop of the Providence Motor Car Co. at 11 Walnut street was damaged by fire and a number of cars destroyed.

Boston, Mass.—W. T. Walker, formerly connected with the Minneapolis branch of the Locomobile company, has been appointed New England salesman for that company.

San Francisco, Cal.—When the Cliff house road is opened October 20 the Pioneer Automobile Co. will install a motor bus service from Van Ness avenue to the Cliff house.

Cincinnati, O.—The Junglas Automobile Co., now at Reading road and June street, has leased the entire building now occupied by Gunther Brothers on Reading road, and will occupy it at once.

Brooklyn, N. Y.—The Brooklyn Motor Car Co., of 1382-1386 Bedford avenue, has changed its name to the R. E. P. Sporting Goods Co., the name being taken from the initials of the manager, Roy E. Pardee. The concern has been acting as agent for the Oldsmobile, and also deals in motoring supplies.

Minneapolis, Minn.—A new motor car manufacturing company is to be located here. The Londe Automobile Mfg. Co., which has local offices in the Century building, has taken a 5-year lease of the Windstacker factory at St. Louis Falls, and will remove its factory from Granite Falls. The concern manufactures a four-cylinder touring car, commercial trucks, and also intends to take up the manufacture of a motor boat engine.

Ripon, Wis.—W. E. Schaefer has taken the agency for the Buick and will open a garage in the near future.

Olympia, Wash.—The Aberdeen Auto Co., of Aberdeen, has been incorporated with a capital stock of $25,000.

Nashville, Tenn.—The McDonald Automobile Co., of Shelby county, has been incorporated with a capital stock of $25,000.

Boston, Mass.—The Holmes Motor Vehicle Co. has filed a schedule in the district court, showing assets of $308 and liabilities of $26,201.

Houston, Tex.—The Empire State Motor Co. has been incorporated with a capital stock of $10,000, and will deal in motor cars and motor boats.

Columbus, O.—Isaac Shuler has finished the alterations on the old skating rink building on Court street, Bowling Green, and has opened his garage.

St. Joseph, Mo.—F. F. Mitchell has retired from the Mitchell Auto Co., his interests being taken by Dr. Barton Pitts, an oculist. F. P. Lee will act as manager.

Montreal, Can.—Berne Nadall, formerly with the Comet Motor Co., Ltd., of Montreal, is shortly to leave Canada and return to the United States. He has taken over the American rights for the sale of the Gillette-Lehman controller and economizer, which will be manufactured in the United States. Mr. Nadall will make Chicago his headquarters.

Danville, Ill.—Walter J. Grant, referee in bankruptcy, has notified the creditors of the St. Anne Kerosene Motor Co., of St. Anne, Ill., that there will be a final meeting of creditors in Danville on Saturday for a final distribution of all the assets in the hands of the trustee in pursuance with an order of the judge of the district court.

Monroe, Mich.—The Seitz Automobile and Transmission Co. has accepted the offer of the city and will locate its factory here. The city gives the company 3 acres of land and $1,000 in municipal bonds, while the company is to erect a factory costing from $8,000 to $10,000, and employ twenty skilled machinists, to be increased to fifty within the year.

Philadelphia, Pa.—The Philadelphia branch of the Harry S. Houpt company, of New York, distributer of the Thomas cars, has just been strengthened by the addition to its force of R. Y. Spare, former manager of the Quaker City retail branch of the Dragon concern on South Broad street. Mr. Spare will act as assistant to Manager Frank D. Garinger.

Milwaukee, Wis.—Harley Davidson Motor Co.; capital stock, $55,000.

New York—Cadillac Co. of New York city; capital stock, $25,000; to deal in motor cars and supplies. Incorporators: A. L. and N. C. Martin and G. C. Garland, Jr.

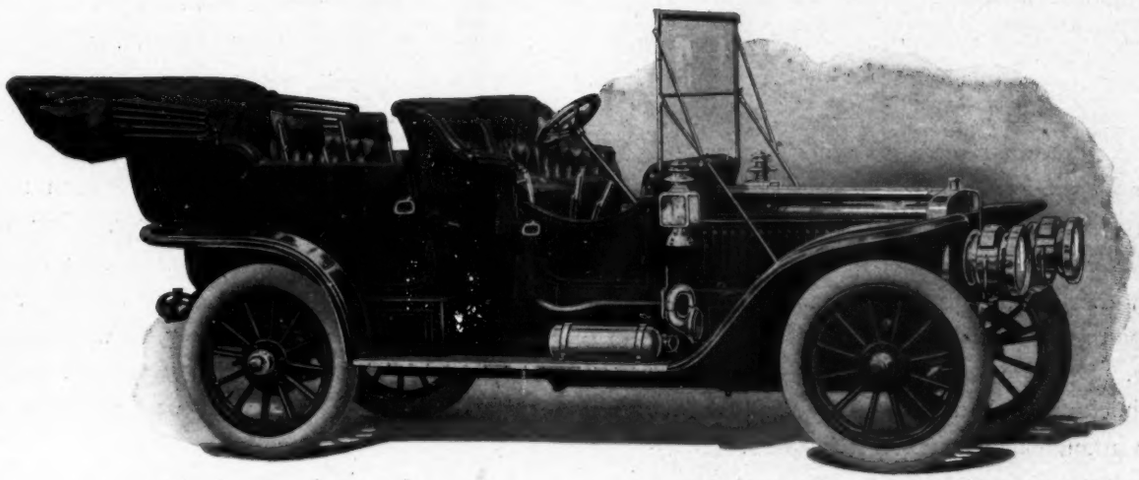
Baltimore, Md.—Atlantic Rim Co.; capital stock, $20,000; to manufacture motor cars and supplies. Incorporators: T. H. Gaither, Jr., J. B. McMullan and E. M. Hammond.

Albany, N. Y.—The Niagara Auto Service Co.; capital stock, $5,000; to operate a stage line. Incorporators: C. M. Rodgers, of Buffalo, and E. Girard and J. H. Brydges, of Niagara Falls.

Washington, D. C.—Motor Car Co. of Washington; capital stock, $10,000; to buy, sell, exchange and repair motor vehicles. Incorporators: A. S. Zell, of Baltimore, and W. C. Hood and H. E. Rowland, of Washington.

WINTON

Six Cylinders Exclusively



The Winton company is the only company in the world making six-cylinder automobiles exclusively.

The reason the Winton company has dared to follow this radical policy is that Mr. Winton has perfected a six-cylinder car that as completely outranks the best fours as the Twentieth Century Limited outranks ordinary passenger trains.

This new Winton Six-Teen-Six is precisely the car for the man who wants the best there is. Goes the route like coasting down hill. Widest range of speed, from flying to crawling, on high gear; threads its way through crowded traffic without shift of gears. Starts from the seat on compressed air. Once ride in the Six-Teen-Six and you'll love it.

Entire output limited to 500 cars, making it the Exclusive Car for 1908.

Purchase price includes five-bow top, full set of gas and oil lamps, gas tank or generator, horn, tools and glass front.

$2500 IN GOLD For Ten Good Chauffeurs

First Prize $1,000
Second $500 Third $250
Fourth $150 Six others $100
A plan to benefit owners as well as drivers. Ask us about it

The Winton Motor Carriage Co. Member A.L.A.M. **Cleveland, O., U. S. A.**

New York Chicago San Francisco Boston Philadelphia Pittsburg Detroit Seattle London

Six-Teen-Six exhibition now on tour from coast to coast.
We shall exhibit at the Madison Square Garden Show, New York, November 2 to 9.

. . . ANNOUNCEMENT . . .

1908 E. R. THOMAS MOTOR COMPANY 1908

Every season the E. R. Thomas Motor Car Company adds something new, something progressive, something that departs from ordinary lines. This year is no exception. We enter the new season with a full line of cars, ranging from four cylinder, 20 horse-power cars, to six cylinder, 70 horse-power cars. The styles include runabouts, tourabouts, touring cars, cabriolets, broughams, landaulets and limousines, a line varied and complete enough to suit every high class requirement.

One of the new lines is the 4-20 Thomas Town Car, designed by M. Gustave Chedru, of France. Runabout, brougham, landaulet, limousine and cabriolet and doctor's car bodies are fitted to these cars.

Town cars are required in every family. They have gained their vogue abroad and America now demands them. For women, in addition to park and suburban driving, they are a necessity for calling, for shopping, for theatrical and social functions. They are sure to take the place of the family carriage, having a radius of 100 miles per day instead of 25 for a horse-drawn vehicle. They operate more safely and economically and are simple and quiet enough for the most nervous to ride in.

For men, they will be utilized for business, carrying them quickly, quietly and safely between their city and suburban homes and their places of business, pleasurably and comfortably alike in fair, rainy or cold weather. For doctors the cars built especially for them will prove invaluable. They are always ready at a moment's notice for any call he may make on them. The center of gravity is low, preventing rocking and skidding and permitting easy ingress and egress. They are short to permit turning in narrow streets without stopping or backing. They are extraordinarily flexible and quiet—even the exhaust pipe being water-cooled to reduce noise. Their simplicity and the high efficiency of their mechanism, coupled with light weight, denote the most marked advance in automobile construction in years.

The 6-70 Thomas Special will surely take the lead in high-powered six-cylinder cars. All the old substantial Thomas features have been incorporated and this car will astonish the most expert by its smooth and quiet running on high gear at the lowest and highest speeds or taking the worst hills and roads on high gear as smoothly and quietly as many well powered cars will on good roads without in the least taxing the mechanism.

The 4-40 Thomas Detroit is a marvel of lightness and smoothness. It has a dash and style in appearance and action that fascinates the automobile expert. With good wide, roomy seats for five—plenty of room, plenty of reserve power, plenty of fine finish, plenty of everything—it makes you wonder how, at the same price, we can afford to improve so much over last season and give so much more than any competitor in our class.

The answer is—We rely on decreased competition and greatly increased volume of business and have constructed a large, new concrete and steel, fireproof factory in Detroit to supply the increased demand.

Next is the Old Reliable Thomas 4-60 Flyer, the car that ran 21 days, 3 hours and 29 minutes, in zero weather and storms, on frozen, muddy and sandy roads without stopping the motor; that has won 75 per cent of the contests it has entered and more world's records than any other car; that unquestionably won the honors of the Glidden tour, completing the entire distance, and then from New York to Buffalo overland, without raising the hoods, without mechanical adjustment, without involuntary stop of any kind, without any perceptible wear of tires, and with but three nail punctures on two cars, and were kept running in Buffalo for several weeks without raising the hoods or cleaning the cars—all this leaving them in as good condition as when they started.

The 4-60 Thomas Flyer has been redesigned by H. E. Coffin and Gustave Chedru, and though the cylinders and mechanism are practically the same, with the same power, the Flyer is miles faster, much smoother, quieter, lighter, roomier than ever. Though having great clearance, the car is lower and racier in appearance, having been changed to meet modern views.

Because of our great increase in facilities, we propose to extend our trade to territories hitherto neglected, and cordially invite all automobile dealers and users to visit our factories for demonstrations and inspection. Pamphlets and photographs will be sent on request.

E. R. THOMAS MOTOR COMPANY

Members A. L. A. M. BUFFALO, NEW YORK.